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U.S. Nuclear Regulatory Commission
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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Request for License Amendment and Exemption:
Clarification of Protection and Safety Monitoring System (PMS)
Interdivisional Cables in Auxiliary Building Fire Areas (LAR-17-011)

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 proposes to depart from approved AP1000 Design Control Document (DCD) Tier 2 information (text and tables) as incorporated into the Updated Final Safety Analysis Report (UFSAR) as plant-specific DCD information, and also proposes to depart from involved plant-specific Tier 1 information (and 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 Tier 1 material departures.

The requested amendment proposes changes to COL Appendix C (and plant-specific Tier 1) Table 3.3-3, which identifies Class 1E divisional cables present in various Auxiliary Building Nuclear Island fire areas. The proposed changes also clarify that Class 1E protection and safety monitoring system (PMS) interdivisional fiber-optic cables are terminated in certain fire areas.

The proposed COL Appendix C (and plant-specific DCD Tier 1) changes require additional changes to corresponding Tier 2 information in UFSAR Appendix 9A and Table 9A-2.

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 provides the proposed changes to the VEGP 3&4 licensing basis documents.

The changes proposed in this LAR are consistent in technical content with LAR 17-05, submitted by South Carolina Electric & Gas Company (SCE&G) in letter NND-17-0106 on March 30, 2017 [ADAMS Accession No. ML17089A687].

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

SNC requests staff approval of this license amendment by September 12, 2017, to support implementation of the changes into licensing basis documents and installation of PMS cables. SNC expects to implement this proposed amendment (through incorporation into the licensing basis documents; e.g., the UFSAR) within 30 days of approval of the requested changes. SCE&G indicated in its submittal letter number NND-17-0106 that the requested approval date for the Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3 license amendment request for this topic is September 8, 2017.

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. Adam G. Quarles at (205) 992-7031.

(oath and affirmation provided on the following page)

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


Brian H. Whitley

BHW/AGQ/ljs

*Sworn to and subscribed before me this* 6th *day of* April, *2017*

*Notary Public:* Lisa Myrick Spears

*My commission expires:* June 18, 2019

Enclosures: 1) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment: Clarification of PMS Interdivisional Cables in Auxiliary Building Fire Areas (LAR-17-011)

2) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Exemption Request: Clarification of PMS Interdivisional Cables in Auxiliary Building Fire Areas (LAR-17-011)

3) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Changes to the Licensing Basis Documents (LAR-17-011)

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**Southern Nuclear Operating Company**

**ND-17-0578**

**Enclosure 1**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Request for License Amendment:**

**Clarification of PMS Interdivisional Cables in Auxiliary Building Fire Areas**

**(LAR-17-011)**

**(Enclosure 1 consists of 17 pages, including this cover page.)**

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Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC, or the "Licensee") hereby requests an amendment to Combined License (COL) Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively. The proposed changes to COL Appendix C (and corresponding plant-specific DCD Tier 1 information) affect Table 3.3-3. The proposed changes to COL Appendix C also require additional changes to UFSAR Tier 2 material in Appendix 9A and Table 9A-2.

## 1. SUMMARY DESCRIPTION

The requested amendment proposes changes to COL Appendix C (and plant-specific Tier 1) Table 3.3-3, which identifies Class 1E divisional cables in various Auxiliary Building fire areas. However, the table does not identify Class 1E protection and safety monitoring system (PMS) interdivisional fiber-optic cables that are terminated in the given fire areas. Though these cables are inspected and tested by other Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) that confirm PMS voting logic, omitting them from Table 3.3-3 could cause ambiguity when closing the ITAAC that confirm cable separation found in Tier 1 Table 3.3-6. Therefore, a clarifying note is added to plant-specific DCD Tier 1 Table 3.3-3 indicating that Class 1E cables for the divisions identified with this new note are limited to interdivisional PMS cables terminating in those fire areas.

Corresponding Tier 2 information in Updated Final Safety Analysis Report (UFSAR) Appendix 9A is also revised to implement the proposed change. The proposed changes revise UFSAR Appendix 9A safe shutdown evaluations to identify that interdivisional cables are terminated in single division fire areas. UFSAR Table 9A-2 is also revised to identify fire areas containing Class 1E PMS interdivisional cables required for safe shutdown and to add Note 2 to the end of the table, indicating that interdivisional cables for data communication are further addressed in UFSAR Appendix 9A.

The requested amendment proposes changes to Tier 2 information in the UFSAR, which involve changes to COL Appendix C and corresponding changes to plant-specific Tier 1 information. This enclosure requests approval of the license amendment necessary to implement the UFSAR changes and involved COL Appendix C changes. Enclosure 2 requests the exemption necessary to implement the involved changes to the plant-specific Tier 1 information.

## 2. DETAILED DESCRIPTION

The proposed activity revises COL Appendix C (and plant-specific Tier 1) Table 3.3-3 to add a second note, Note 2, identifying that interdivisional PMS cables are terminated in the identified Auxiliary Building fire areas in addition to the cable divisions currently listed for these areas. "Interdivisional" cables are defined as cables that interconnect protection and

safety monitoring system (PMS) divisions, including Division A, B, C and D cables. The affected fire areas are as follows:

- 1201 AF 02, Division B electrical rooms in Auxiliary Building, non-radiologically controlled area
- 1201 AF 03, Division D electrical rooms in Auxiliary Building, non-radiologically controlled area
- 1202 AF 03, Division C electrical rooms in Auxiliary Building, non-radiologically controlled area
- 1202 AF 04, Division A electrical rooms in Auxiliary Building, non-radiologically controlled area

WCAP-16675, Revision 5, AP1000 Protection and Safety Monitoring System Architecture Technical Report, describes the PMS divisional cables and is incorporated by reference into the UFSAR. The addition of Note 2 to COL Appendix C (and plant-specific Tier 1) Table 3.3-3 is for clarification only and does not adversely affect any safety-related function, safe shutdown of the plant, cable separation, or the fire protection program. COL Appendix C (and plant-specific Tier 1) Table 3.3-6, ITAAC Nos. 3.3.00.07c.i.a and 3.3.00.07e, confirm the design requirements for separation of these cables.

While COL Appendix C (and plant-specific Tier 1) Table 3.3-3 identifies the associated Class 1E divisions of cables being routed through each fire area (e.g., division A cables routed through division A electrical rooms), it does not identify that interdivisional cables are also terminated in these fire areas. Currently, the table provides a dashed line in the column representing the non-applicable cable divisions for each fire area and an explanatory note at the end of the table. However, this note does not identify that there are also interdivisional cables present in these fire areas in accordance with cable tray arrangement drawings. Therefore, a second note is proposed to be added to Table 3.3-3 and applied to the columns to identify the interdivisional cables terminating in the given fire areas. Additionally, revisions to UFSAR Appendix 9A are proposed to identify in the applicable safe shutdown evaluations that Class 1E interdivisional data communication cables in multiple PMS divisions are terminated in a single fire area, though in the event of a fire, safe shutdown functions are not disabled. UFSAR Table 9A-2 is also revised to identify the presence of Class 1E interdivisional cables in each fire area through a new note, Note 2. This note directs the reader to UFSAR Appendix 9A for additional information about the presence of interdivisional cables within the applicable fire areas.

ITAAC No. 3.3.00.07c.i.a, in COL Appendix C (and plant-specific Tier 1), Table 3.3-6, confirms separation between Class 1E divisions in accordance with the fire areas identified in Tier 1 Table 3.3-3. The proposed changes to Table 3.3-3 do not prevent acceptance criteria from being met as there are no changes to divisional cable separation or fire boundaries which also separate the cables. ITAAC No. 3.3.00.07e in COL Appendix C (and plant-specific Tier 1), Table 3.3-6, is applicable to the PMS interdivisional cables. This ITAAC confirms that the cables are routed and separated such that the PMS voting logic is not defeated by the loss of any single raceway or fire area. The proposed changes to Table 3.3-3 do not prevent the ITAAC acceptance criteria from being met.

Proposed Licensing Basis Changes

The following changes to COL Appendix C (and corresponding plant-specific Tier 1) and UFSAR Tier 2 information are proposed:

COL Appendix C (and plant-specific Tier 1) Table 3.3-3

Revise existing "Note" to be Note 1. Add Note 2 to the table and applicable fire areas to identify cables are interdivisional cables terminated in the designated fire area.

UFSAR Subsection 9A.3.1.2.1.1, Fire Area 1202 AF 04 (Division A electrical and I&C rooms)

Revise safe shutdown evaluation to identify Class 1E divisions B, C, and D interdivisional cables for data communication between divisions are in this fire area. Revise to identify that in the event of a fire, it is assumed that data transmitted between division A and the other Class 1E divisions is lost, but safe shutdown functions are not disabled.

UFSAR Subsection 9A.3.1.2.2.1, Fire Area 1201 AF 02 (Division B electrical and I&C rooms)

Revise safe shutdown evaluation to identify Class 1E divisions A, C, and D interdivisional cables for data communication between divisions are in this fire area. Revise to identify that in the event of a fire, it is assumed that data transmitted between division B and the other Class 1E divisions is lost, but safe shutdown functions are not disabled.

UFSAR Subsection 9A.3.1.2.3.1, Fire Area 1202 AF 03 (Division C electrical, I&C, penetration, and RCP trip switchgear rooms)

Revise safe shutdown evaluation to identify Class 1E divisions A, B, and D interdivisional cables for data communication between divisions are in this fire area. Revise to identify that in the event of a fire, it is assumed that data transmitted between division C and the other Class 1E divisions is lost, but safe shutdown functions are not disabled.

UFSAR Subsection 9A.3.1.2.4.1, Fire Area 1201 AF 03 (Division D electrical and I&C rooms)

Revise safe shutdown evaluation to identify Class 1E divisions A, B, and C interdivisional cables for data communication between divisions are in this fire area. Revise to identify that in the event of a fire, it is assumed that data transmitted between division D and the other Class 1E divisions is lost, but safe shutdown functions are not disabled.

UFSAR Table 9A-2

Revise the table to identify Class 1E cables for PMS in fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04. Add new Note 2 to last page of table to state the interdivisional cables for data communication are further addressed in UFSAR Appendix 9A. List Note 2 for each division (A, B, C and D) of the Class 1E cables identified for the fire areas.

## 3. TECHNICAL EVALUATION

A fire protection analysis is performed for areas of the plant containing safety-related components and for areas containing systems important to the generation of electricity. The analysis evaluates the effects of postulated fires in each Auxiliary Building fire area on the ability of the operator to achieve a safe shutdown of the plant. As described in UFSAR Section 9.5.1.1.1, the safety design basis of the fire protection systems related to safe shutdown includes separate redundant safe shutdown components and associated electrical divisions to preserve the capability to safely shut down the plant following a fire.

A review of fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03 and 1202 AF 04 was performed to identify the Class 1E divisions of cables and components which are terminated in these areas. Specifically, Protection and Safety Monitoring System (PMS) interdivisional fiber-optic cables (i.e., data communication cables) from the four divisions A, B, C and D, are present in each of these fire areas. In the event of a fire in one of the rooms in the fire area, it is assumed that control of associated divisional components is lost.

UFSAR Subsection 9A.3.1.2.2.1, Fire Area 1201 AF 02:

This fire area contains division B cabling and safe shutdown components consistent with UFSAR Table 9A-2. This fire area consists of Rooms 12104, 12204, 12207, 12304, and 12344. PMS interdivisional cables of divisions A, C and D are terminated in this fire area in Room 12304. These cables connect PMS division B cabinets from Room 12304 to the associated PMS division A, C and D Rooms 12301, 12302 and 12305. Division B electrical rooms are physically separated from the other safety-related divisions and nonsafety-related equipment by 3-hour fire barriers.

UFSAR Subsection 9A.3.1.2.4.1, Fire Area 1201 AF 03:

This fire area contains division D cabling and safe shutdown components consistent with UFSAR Table 9A-2. This fire area consists of Rooms 12105, 12205, 12305, and 12345. PMS interdivisional cables of divisions A, B and C are terminated in this fire area in Room 12305. These cables connect PMS division D cabinets from Room 12305 to the associated PMS division A, B and C Rooms 12301, 12302 and 12304. Division D electrical rooms are physically separated from the other safety-related divisions and nonsafety-related equipment by 3-hour fire barriers.

UFSAR Subsection 9A.3.1.2.3.1, Fire Area 1202 AF 03:

This fire area contains division C cabling and safe shutdown components consistent with UFSAR Table 9A-2. This fire area consists of Rooms 12102, 12202, 12203, 12302, 12312, 12313, and 12343. PMS interdivisional cables of divisions A, B and D are terminated in this fire area in Room 12302 and also in Room 12313 for divisions B and D. These cables connect PMS division C cabinets from Room 12302 to the associated PMS division A, B and D Rooms 12301, 12304 and 12305. Division C electrical rooms are physically separated from the other safety-related divisions and nonsafety-related equipment by 3-hour fire barriers.

UFSAR Subsection 9A.3.1.2.1.1, Fire Area 1202 AF 04:

This fire area contains division A cabling and safe shutdown components consistent with UFSAR Table 9A-2. This fire area consists of Rooms 12101, 12201, and 12301. PMS interdivisional cables of divisions B, C and D are terminated in this fire area in Room 12301. These cables connect PMS division A cabinets from Room 12301 to the associated PMS division B, C and D Rooms 12302, 12304 and 12305. Division A electrical rooms are physically separated from the other safety-related divisions and nonsafety-related equipment by 3-hour fire barriers.

Only one fire is assumed to occur within the plant at any given time. Plant accidents and severe natural phenomena are not assumed to occur concurrently with a postulated fire. A concurrent single active component failure (independent of the fire) is not assumed. All equipment in any one fire area is assumed to be rendered inoperable by a fire unless the fire protection analysis demonstrates otherwise. The fire areas listed above contain PMS interdivisional fiber-optic cables which are terminated in PMS cabinets. The PMS design requires data communications between the four divisions. This point-to-point communication is provided by fiber-optic cables implementing high speed datalinks (HSLs) as described in WCAP-16675, Revision 5. WCAP-16675, Figure 2-1, provides an overview of the interdivisional communication within the PMS, which uses 4 divisions of fiber-optic cables to communicate within and across PMS divisions. An individual PMS division receives data from and transmits data to the other PMS divisions. The PMS consists of four divisions, designated A, B, C and D. The safety systems are physically, functionally, and electrically separated from each other and from non-safety systems. Redundant divisions are provided to address single failure criteria and improve plant reliability. The redundant divisions of the PMS are designed and located to mitigate the effects of natural phenomena, normal operating maintenance and testing, and design basis accidents (DBAs) causing a loss of safety functions. The PMS is designed such that each of the redundant divisions is supplied from separate isolated power sources. Three-hour fire barriers are provided between the PMS divisional rooms to prevent a fire in one division from causing effects to another division. Loss of interdivisional fiber-optic cabling is not a reduction in safety as the PMS is designed to operate despite the loss of an entire division.

An evaluation was performed to determine that the maximum level of acceptable degradation PMS can withstand is the loss of one entire division's communication with the redundant divisions. An undesirable, but acceptable level of degradation occurs with protection through divisional fire barriers and overall PMS redundancy. Assuming a worst case scenario in which an entire division is lost due to a fire, loss of interdivisional fiber-optic cables is not a reduction in safety because design/safe shutdown functions can still be performed. It is therefore acceptable for multiple divisions of Class 1E PMS cables to terminate in a single fire area.

Each PMS division contains:

1. Two redundant bistable processing logic (BPLs) performing identical functions. There are a total of eight BPLs in the four PMS divisions. For each PMS safety function, the BPLs perform a bistable function, generating a trip signal if the sensor value exceeds the setpoint. Most PMS safety functions monitor sensors in all four divisions for the input logic. A few PMS safety functions monitor sensors in two divisions for the input logic.

2. Two redundant local coincidence logic (LCLs) performing identical functions. There are a total of eight LCLs in the four PMS divisions. For each PMS safety function, the LCLs perform a voting logic function, generating a reactor trip and/or engineered safeguards features (ESF) trip signal for that division if the required number of BPL signals indicates the need for a trip. If a BPL ESF function monitors sensors in all four divisions, the LCLs implement two-out-of-four (2oo4) coincidence logic. If a BPL ESF function monitors sensors in three divisions, the LCLs implement two-out-of-three (2oo3) coincidence logic. If a BPL ESF function monitors sensors in two divisions, the LCLs implement one-out-of-two (1oo2) coincidence logic.

The redundant BPLs in each division communicate with the redundant LCLs in each division using unidirectional HSL over fiber-optic cables. The fiber-optic cables help to provide isolation between the redundant divisions (i.e., electrical faults and fires in one division cannot impact another division). If an HSL signal is lost (e.g., due to the failure of transmitting BPLs due to fire or physical damage to a fiber-optic cable due to fire), the receiving LCLs detect the loss of the HSL signal and take appropriate default actions. For ESF safety functions, the default action involves setting the failed HSL signal to no-actuate, effectively reducing the 2oo4 coincidence logic to 2oo3, 2oo3 coincidence logic to 2oo2, and 1oo2 logic to 1oo1. Consequently, PMS system level functions can be performed even with the loss of one entire division due to a fire.

Therefore, COL Appendix C (and plant-specific Tier 1) Table 3.3-3 is revised to change "Note" to "Note 1" and to add "Note 2." Note 2 identifies that divisional cables in the given fire area are limited to interdivisional cabling terminating in the fire areas. However, these cables are not redundant to the remaining divisions routed through the fire area. In the event a single fire area is compromised, voting logic between divisions is maintained through alternate pathways through the remaining divisions as described above. The table is changed to add Note 2 for each interdivisional cable division that terminates in fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03 and 1202 AF 04. For example, in fire area 1201 AF 02, cable divisions A, C and D have Note 2 identified because interdivisional cabling terminates in the fire area in addition to division B cables. The use of the existing note, which is changed to Note 1, is not impacted by this activity.

UFSAR Subsections 9A.3.1.2.2.1, 9A.3.1.2.4.1, 9A.3.1.2.3.1, and 9A.3.1.2.1.1 are revised to identify that interdivisional cables for data communications are located in the fire areas described above. Revisions describe the continued safe shutdown operations which are performed when a fire occurs in these areas. PMS control functions are not adversely affected by the termination of interdivisional cables in a single fire area as redundant divisional cables are routed in separate fire areas and can be used to perform the required control functions in the event of a fire.

The interdivisional cables provide signals associated with some safe shutdown functions in accordance with UFSAR Subsection 7.4.1.1, which describes safe shutdown functions using safety-related systems. Therefore, these cables are required for safe shutdown. UFSAR Table 9A-2 is revised to identify the PMS interdivisional cables for data communication which are terminated in each fire area described above including 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04. A second note (i.e., Note 2) is added to the table to identify that cables are addressed in the applicable Appendix 9A fire area description (i.e., UFSAR Subsections 9A.3.1.2.2.1, 9A.3.1.2.4.1, 9A.3.1.2.3.1, and 9A.3.1.2.1.1). "Note 2" is added to

each A, C, B and D division listed for the Class 1E cables identified for each fire area in order to provide a reference to the description of these cables in their associated fire area in UFSAR Appendix 9A. This change does not adversely impact safe shutdown functions and is consistent with the changes identified to COL Appendix C (and plant-specific Tier 1) Table 3.3-3.

The design functions of the PMS and Class 1E and non-Class 1E cabling are not adversely affected by this change. COL Appendix C (and plant-specific Tier 1) Table 3.3-6, ITAAC No. 3.3.00.07e, requires these cables to be separated such that the PMS voting logic is not defeated by the loss of any single raceway or fire area. Separation of PMS interdivisional fiber-optic cables is met for COL Appendix C (and plant-specific Tier 1) Table 3.3-6, ITAAC No. 3.3.00.07c.i.a. The proposed changes to COL Appendix C (and plant-specific Tier 1) Table 3.3-3 do not impact this ITAAC as the changes described do not challenge the closure of this ITAAC. COL Appendix C (and plant-specific Tier 1) Section 3.3.7.e states that Class 1E communication cables which interconnect two divisions are routed and separated such that the PMS voting logic is not defeated by the loss of any single raceway or fire area. This criterion is not changed or adversely affected as PMS divisions are routed in separate fire areas with redundant channels so as to maintain performance of required control functions. The proposed changes to COL Appendix C (and plant-specific Tier 1) Table 3.3-3 do not prevent acceptance criteria from being met as PMS is designed to operate despite the loss of a single division.

The changes to COL Appendix C (and plant-specific Tier 1) Table 3.3-3 are for clarification only and do not adversely impact any safety-related function of any systems, structures or components (SSCs). ITAAC Table 3.3-6, ITAAC No. 3.3.00.07c.i.a, requires separation between Class 1E divisions in accordance with the fire areas identified in COL Appendix C (and plant-specific Tier 1) Table 3.3-3. The proposed changes to this table do not prevent acceptance criteria from being met. Associated changes in UFSAR Appendix 9A provide the supporting analysis of the proposed changes in COL Appendix C (and plant-specific Tier 1). Safe shutdown components for this area as listed in UFSAR Table 9A-2 are not adversely affected. The boundaries of these fire areas and the components within them remain unchanged. The Fire Protection Analysis as documented in UFSAR Appendix 9A is not adversely impacted as the proposed change is not a safety concern for fire protection or safe operation of the plant during normal operation or for safe shutdown conditions. There is no change to any other fire areas or safe shutdown functions listed in COL Appendix C (and corresponding Tier 1) Table 3.3-3 not described in this departure.

In summary, because the design of plant fire protection includes the protection of safe shutdown capabilities, the potential for fire induced circuit failures and multiple spurious actuations to adversely affect the ability to shut down is significantly reduced. Examples of design features that significantly reduce the adverse effects of fire-induced circuit failures include the use of fiber-optic cabling and separation of redundant trains by passive barriers. This conclusion supports the basis and acceptability of this change.

Accident analysis is not changed as Class 1E divisional cabling and safe shutdown requirements are not addressed in UFSAR Ch. 6 or 15. Safe shutdown operations following a fire are addressed in UFSAR Appendix 9A and are not adversely affected by this activity. Additionally, PMS setpoints for reactor trip functions and ESF functions as described in UFSAR Table 15.0-4a are not changed as functions provided by the PMS cabinets and

cables are not adversely affected. PMS is designed to operate with the loss of a single division. Fire Probabilistic Risk Assessment (PRA) modeling and analyses are not impacted by this change as systems, structures and components (SSCs) are not changed and conclusions of safe shutdown evaluations are the same. Safe shutdown cables and components are not changed and do not prohibit the performance of shutdown functions following a fire or loss of ac power. Changes identified for Class 1E divisional cables do not involve an interface with any SSC accident initiator or initiating sequence of events related to the accidents evaluated in the plant-specific DCD or UFSAR. Evaluation of core damage frequency (CDF) is not adversely impacted by this change as changes to the fire areas that contribute to CDF are captured in the most current PRA of the areas. Associated assumptions remain valid and contributing percentages are not changed by this activity.

The changes to COL Appendix C (and plant-specific Tier 1) information and UFSAR Appendix 9A regarding Class 1E interdivisional fiber-optic cable separation and safe shutdown do not adversely affect safety-related equipment or a fission product barrier. Voting logic for PMS control functions is not adversely affected as PMS cabinets function using 2oo4, 2oo3 or 1oo2 logic. Redundant cable divisions which support PMS functions are routed separately in other fire areas and will not be affected in the event of a fire in one of the identified fire areas. PMS is designed to operate with the loss of a single division and continue operating using reduced coincidence logic. No system or equipment qualification is adversely affected by the proposed changes. The changes do not result in a new failure mode, malfunction or sequence of events that could adversely affect a radioactive material barrier 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 new sequence of events that would result in significant fuel cladding failures.

The identification of interdivisional fiber-optic cables does not adversely impact any functions associated with containing, controlling, channeling, monitoring, or processing radioactive or non-radioactive materials. The fire areas impacted by this change are in the non-radiologically controlled area (non-RCA) of the Auxiliary Building. The types and quantities of expected plant effluents are not changed. No effluent release path is associated with these safe shutdown components. Therefore, neither radioactive nor non-radioactive material effluents are affected by this activity.

The changes to the COL Appendix C (and plant-specific Tier 1) information and UFSAR Appendix 9A do not impact radiologically controlled zones as the fire areas identified are in the non-RCA. Plant radiation zones, radiation controls established to satisfy 10 CFR 20 requirements, and expected amounts and types of radioactive materials are not affected by the proposed changes. Therefore, individual and cumulative radiation exposures are not significantly affected by this change.

Summary

The proposed changes to COL Appendix C (and plant-specific Tier 1) and associated UFSAR design information will not adversely affect safety-related equipment or function, design function, radioactive material barrier or safety analysis. Fire safe shutdown is not adversely impacted by these changes.

## 4. REGULATORY EVALUATION

### 4.1 Applicable Regulatory Requirements/Criteria

10 CFR 52.98(f) requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of a Combined License (COL). This activity involves a departure from COL Appendix C information and corresponding plant-specific Tier 1 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.

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 change affects information in COL Appendix C (and corresponding plant-specific Tier 1) Table 3.3-3 and UFSAR Appendix 9A, and thus requires NRC approval for the Tier 2 and involved Tier 1 departures.

10 CFR 50, Appendix A, "General Design Criteria for Nuclear Power Plants" General Design Criterion (GDC) 3 – *Fire protection.* Structures, systems, and components important to safety shall be designed and located to minimize, consistent with other safety requirements, the probability and effect of fires and explosions. Noncombustible and heat resistant materials shall be used wherever practical throughout the unit, particularly in locations such as the containment and control room. Fire detection and fighting systems of appropriate capacity and capability shall be provided and designed to minimize the adverse effects of fires on structures, systems, and components important to safety. Firefighting systems shall be designed to assure that their rupture or inadvertent operation does not significantly impair the safety capability of these structures, systems, and components.

The proposed changes do not modify fire protection requirements and do not increase probability of a fire. Therefore, compliance with GDC-3 is not changed.

10 CFR 50, Appendix A, GDC-13 – *Instrumentation and Control*. Instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges.

The proposed changes do not change any instrumentation or control and do not adversely affect the cable routing for any instrumentation in the identified fire areas. The reactor core, pressure boundaries and containment are not affected by this change. Therefore, compliance with GDC-13 is not changed.

10 CFR 50, Appendix A, GDC-17 – *Electric power systems.* An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system (assuming the other system is not functioning) shall be to provide sufficient capacity to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.

The proposed changes do not adversely impact the electric power systems of the plant and do not impact cable separation requirements as functions of the cables are not changed. Therefore, compliance with GDC-17 is not changed.

10 CFR 50, Appendix A, GDC-20 – *Protection system functions*. The protection system shall be designed (1) to initiate automatically the operation of appropriate systems including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of systems and components important to safety.

The proposed changes do not adversely impact the functionality of the protection and safety monitoring system (PMS) as the functions for normal operation and during safe shutdown are not changed. Engineered safeguards actuation or reactor trip functions are not adversely impacted. In the event of a fire, PMS is designed to operate with the loss of a single division. Therefore, compliance with GDC-20 is maintained.

10 CFR 50, Appendix A, GDC-21 – *Protection system reliability and testability*. The protection system shall be designed for high functional reliability and inservice testability commensurate with the safety functions to be performed. Redundancy and independence designed into the protection system shall be sufficient to assure that (1) no single failure results in loss of the protection function and (2) removal from service of any component or channel does not result in loss of the required minimum redundancy unless the acceptable reliability of operation of the protection system can be otherwise demonstrated. The protection system shall be designed to permit periodic testing of its functioning when the reactor is in operation, including a capability to test channels independently to determine failures and losses of redundancy that may have occurred.

The proposed changes do not adversely affect the functions of the PMS. In the event of a fire, loss of a single division does not result in a loss of safe shutdown functionality as redundant divisions are routed in separate fire areas and designed to operate despite the loss of an entire division. Therefore, compliance with GDC-21 is not changed.

10 CFR 50, Appendix A, GDC-22 – *Protection system independence*. The protection system shall be designed to assure that the effects of natural phenomena, and of normal operating, maintenance, testing, and postulated accident conditions on redundant channels do not result in loss of the protection function, or shall be demonstrated to be acceptable on some other defined bases. Design techniques, such

as functional diversity or diversity in component design and principles of operation, shall be used to the extent practical to prevent loss of the protection function.

The proposed changes do not adversely affect the functions of the PMS. In the event of a fire, loss of a single division does not result in a loss of safe shutdown functionality as redundant divisions are routed in separate fire areas and designed to operate despite the loss of an entire division. Therefore, compliance with GDC-22 is not changed.

10 CFR 50, Appendix A, GDC-29 – *Protection against anticipated operational occurrences*. The protection and reactivity control systems shall be designed to assure an extremely high probability of accomplishing their safety functions in the event of anticipated operational occurrences.

The proposed changes do not adversely affect the capability of the PMS to perform safe shutdown functions in the event of a fire. The PMS is designed to operate with the loss of a single division. Cables and the associated design functions routed in various fire areas are not adversely affected by this change. Therefore, compliance with GDC-29 is not changed.

### 4.2 Precedent

No precedent is identified.

### 4.3 Significant Hazards Consideration Determination

The requested change(s) revise the Combined License (COL) Appendix C (and plant-specific Tier 1) information. COL Appendix C (and plant-specific Tier 1) Table 3.3-3 is revised to change the note to Note 1 and add a second note, Note 2, to identify that interdivisional cables are also terminated in the identified fire areas.

UFSAR Subsections 9A.3.1.2.2.1, 9A.3.1.2.4.1, 9A.3.1.2.3.1, and 9A.3.1.2.1.1 are revised to identify that interdivisional cables are terminated in the identified fire areas and do not pose a safety concern in the event of a fire. Safe shutdown functions are not disabled. UFSAR Table 9A-2 is revised to identify the Class 1E interdivisional cables for each division in the applicable fire areas with a note to reference the corresponding fire area description in UFSAR Appendix 9A.

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 changes to Combined License (COL) Appendix C (and plant-specific Tier 1) Table 3.3-3 and Updated Final Safety Analysis Report (UFSAR) Appendix 9A do not involve any accidents which are previously evaluated. The interdivisional

cables provide signals associated with some safe shutdown functions in accordance with UFSAR Subsection 7.4.1.1, which describes safe shutdown functions using safety-related systems. Therefore, these cables are required for safe shutdown. Accident analyses as described in UFSAR Ch. 15 are not changed as fire-related events in the Auxiliary Building are evaluated separately in UFSAR Appendix 9A for plant safe shutdown. A concurrent single active component failure independent of a fire is not assumed in this evaluation. Voting logic for protection and safety monitoring system (PMS) control functions is not adversely affected as the fiber-optic cables associated with these PMS cabinets in the specified fire areas function using two-out-of-four (2oo4), two-out-of-three (2oo3), or one-out-of-two (1oo2) logic. Redundant cable divisions which support PMS functions are routed separately in other fire areas and will not be affected in the event of a fire in one of the identified fire areas. PMS setpoints for reactor trip functions and engineered safeguards features (ESF) functions as described in UFSAR Table 15.0-4a are not changed as functions provided by the PMS cabinets and cables are not adversely affected. PMS is designed to operate with the loss of a single division. Existing accidents previously evaluated are not affected and do not require further analysis. As described in Appendix 9A, in no case does the spurious actuation of equipment prevent safe shutdown. This conclusion remains valid for the proposed changes.

Changes to the safe shutdown evaluation account for interdivisional fiber-optic cables inside of divisional fire areas; however, safe shutdown functions are not changed. Loss of interdivisional fiber-optic cabling is not a reduction in the safety of the plant as the PMS is designed to operate despite the loss of an entire division. Furthermore, fire protection analyses as described in UFSAR Appendix 9A are not adversely affected by this activity as fire protection requirements and equipment are not changed. Conclusions of the associated safe shutdown evaluations are not changed. No safety-related structure, system, component (SSC) or function is adversely affected by this change. The change does not involve an interface with any SSC accident initiator or initiating sequence of events, and thus, the probabilities of the accidents evaluated in the UFSAR are not affected. The proposed changes do not involve a change to the predicted radiological releases due to postulated accident conditions, thus, the consequences of the accidents evaluated in the UFSAR are not affected.

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 to COL Appendix C (and plant-specific Tier 1) Table 3.3-3 and UFSAR Appendix 9A do not affect any safety-related equipment, and do not add any new interfaces to safety-related SSCs. No system or design function or equipment qualification is affected by these changes as the changes do not modify any SSCs. The existing interdivisional fiber-optic Class 1E cable

routing is acceptable because redundant PMS divisions are routed in separate fire areas and can perform safe shutdown functions as required. Redundant cable divisions will not be affected in the event of a fire in one of the identified fire areas. PMS is designed to operate with the loss of a single division. PMS control functions continue being performed using reduced coincidence logic in the event of a fire when a single division is lost.

The changes do not introduce a new failure mode, malfunction or sequence of events that could affect safety or safety-related equipment. Safe shutdown functions are not changed as a result of this activity as the loss of an entire divisional room does not disable safe shutdown functions. Separation of cables in the designated Auxiliary Building fire areas is not adversely impacted. A concurrent single active component failure independent of a fire is not assumed in this evaluation as described in UFSAR Appendix 9A. There is no adverse impact to any other fire areas or safe shutdown functions listed in COL Appendix C (and plant-specific Tier 1) Table 3.3-3 and UFSAR Appendix 9A. Changes to the identified cables in the specified fire areas do not affect the operator's ability to safely shut down the plant in the event of a fire. Safe shutdown conclusions identified for each fire area are not changed by these activities as safe shutdown functions are not affected.

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 changes to COL Appendix C (and plant-specific Tier 1) Table 3.3-3 and UFSAR Appendix 9A design information, including fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04, do not adversely affect the safety-related functions of the safe shutdown Class 1E divisions or any function associated with safe shutdown. Interdivisional fiber-optic cabling is not adversely affected and plant control functions are not changed as PMS is designed to operate with a loss of a single division. This activity does not reduce the margin of safety regarding fire protection within the plant. The changes do not affect any other safety-related equipment or fission product barriers. The requested changes will not affect any 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. Redundant cables are terminated in other fire areas. Voting logic for actuation of PMS control functions is not changed and plant responses to potential spurious actuation are not adversely affected by these activities.

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

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

### 4.4 Conclusions

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 requested 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 requested change does not involve a Significant Hazards Consideration.

## 5. ENVIRONMENTAL CONSIDERATIONS

This review supports a request to amend Combined License (COL) Appendix C (and corresponding plant-specific Tier 1) and Updated Final Safety Analysis Report (UFSAR) information.

The proposed changes to COL Appendix C and the UFSAR identify interdivisional cables which are terminated in single division fire areas in the Auxiliary Building. These changes do not pose a safety concern in the event of a fire. The proposed changes do not result in the disabling of safe shutdown functions or the ability to maintain the plant in a safe shutdown condition. The functions of equipment required for safe shutdown located in the reviewed fire areas are not changed or impacted. There is no adverse impact to any other fire areas listed in COL Appendix C (and plant-specific Tier 1) Table 3.3-3 or to safe shutdown functions listed in UFSAR Appendix 9A.

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 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 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 in the requested amendment revise text in COL Appendix C (and plant-specific Tier 1) to identify that interdivisional cables are located within specified divisional equipment fire areas. Additionally, UFSAR Appendix 9A is revised to identify that interdivisional cables are located in specific fire areas, but do not affect safe shutdown functions. The control functions provided by this equipment are not adversely impacted by a fire in any given area. The 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. 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 regarding multiple divisions of interdivisional cables terminating in a single fire area do not impact radiation exposure or dose rates. Plant radiation zones, radiation control established to satisfy 10 CFR 20 requirements, and expected amounts and types of radioactive materials are not affected by the proposed changes. Therefore, it is concluded that 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 amendment is not required.

## 6. REFERENCES

None.

**Southern Nuclear Operating Company**

**ND-17-0578**

**Enclosure 2**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Exemption Request:**

**Clarification of PMS Interdivisional Cables in Auxiliary Building Fire Areas**

**(LAR-17-011)**

**(Enclosure 2 consists of 9 pages, including this cover page.)**

## 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. The Tier 1 information for which a plant-specific departure and exemption is being requested is Table 3.3-3, Class 1E Divisions in Nuclear Island Fire Areas. The Licensee proposes changes to this table to identify the presence of protection and safety monitoring system (PMS) interdivisional fiber-optic cables terminated within certain fire areas identified in it.

This request for exemption provides the technical and regulatory basis to demonstrate that 10 CFR 52.63, §52.7, and §50.12 requirements are met and will apply the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow a departure from generic Tier 1 Table 3.3-3 information to include the aforementioned PMS cables.

## 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.

A review of plant fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04 was performed to identify the Class 1E divisional cables and components in these areas. This review identified that PMS Class 1E interdivisional fiber-optic cables terminating in the PMS cabinets within these fire areas were not identified in DCD Tier 1 Table 3.3-3, although WCAP-16675, AP1000 Protection and Safety Monitoring System Architecture Technical Report, identified them as part of the approved design. This circumstance could introduce ambiguity when closing Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) 7.c.i.a and 7.e, from plant-specific Tier 1 Table 3.3-6, which confirm appropriate separation between Class 1E divisions, consistent with Table 3.3-3, and that the PMS voting logic is not defeated by the loss of any single raceway or fire area.

To address this circumstance, changes are proposed by the Licensee to plant-specific Tier 1 Table 3.3-3, Class 1E Divisions in Nuclear Island Fire Areas, to identify the presence of PMS Class 1E interdivisional fiber-optic cables terminating in the PMS cabinets within fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04. To facilitate the identification of these interdivisional cables, the Table 3.3-3 note is changed to Note 1, and a new note, Note 2, is added to Table 3.3-3. Note 2 is also applied to the appropriate divisional columns of the table to identify which PMS division's interdivisional cables terminate within the fire areas identified above.

Proposed Departures from Certified Tier 1 Information are as follows:

Table 3.3-3, Class 1E Divisions in Nuclear Island Fire Areas, is revised to indicate the presence of PMS interdivisional fiber-optic cables terminating within fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04. This is accomplished by changing the current Table note to Note 1 and adding a new note, Note 2. Note 2 is also applied to the appropriate table divisional columns for these fire areas.

## 3.0 TECHNICAL JUSTIFICATION OF ACCEPTABILITY

Plant-specific Tier 1 Table 3.3-6 contains ITAAC that reflect the AP1000 design commitments regarding cable separation of Class 1E divisions. ITAAC 7.c.i.a validates that separation of Class 1E electrical and communication cables and raceways exists in the as-built plant in accordance with the fire areas identified in Tier 1 Table 3.3-3. ITAAC 7.e validates that Class 1E communications cables in the as-built plant are routed and separated such that PMS voting logic is not defeated by the loss of any single raceway or fire area.

Plant-specific Tier 1 Table 3.3-3 does not identify Class 1E PMS interdivisional fiber-optic cables that exist in the plant design documentation for fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04. Without these interdivisional cables identified in the table, ambiguity is introduced into the ITAAC closure process as Tier 1 Table 3.3-3 is the point of reference in the design commitment of ITAAC 7.c.i.a. The as-built plant is compared to this table to determine if acceptance criteria have been met.

To remove potential ambiguity from the ITAAC closure process, the Licensee proposes to revise Tier 1 Table 3.3-3 to identify the presence of Class 1E PMS interdivisional fiber-optic cables terminating in the PMS cabinets within fire areas 1201 AF 02, 1201 AF 03, 1202 AF 03, and 1202 AF 04 as described above. These cables were included in the approved AP1000 design through incorporation by reference (IBR) of WCAP-16675, AP1000 Protection and Safety Monitoring System Architecture Technical Report, into the DCD. Consequently, there is no physical change to the plant design or design functions.

Licensee revision of plant-specific Tier 1 Table 3.3-3 does not impact the requirements of the ITAAC. Adding Class 1E PMS interdivisional fiber-optic cables to Table 3.3-3 aligns it with the ITAAC 7.c.i.a design commitment for Class 1E cable separation and the AP1000 design description in WCAP-16675. Thus, the potential for ambiguity during the ITAAC closure process, due to the presence of Class 1E cables in the stated fire areas, is eliminated. In addition, PMS voting logic design confirmed in ITAAC 7.e is not impacted by the proposed revisions to the table as there are no changes to PMS function or voting logic. The PMS safety functions and voting logic continue to perform as designed because the interdivisional cables added to Tier 1 Table 3.3-3 were included in the approved AP1000 design through WCAP-16675.

In addition to ensuring ITAAC closure, the proposed changes do not impact the safe shutdown capabilities of the PMS. The PMS, in accordance with the current licensing

basis, can withstand the loss of an entire division and retain the ability to safely shut down the plant due to divisional redundancy. Also, PMS voting logic is not defeated by the loss of any raceway or fire area as the PMS design is not altered by the proposed changes to Table 3.3-3.

The revision to Tier 1 Table 3.3-3 makes no physical changes to the plant. No safety-related systems are impacted and no PMS design functions are altered. The changes to the table do not introduce any new failure modes or environmental impacts.

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 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. Because the Licensee has identified changes to the Tier 1 information as discussed in Enclosure 1 of the accompanying License Amendment Request, an exemption from the certified design information in Tier 1 is needed.

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)]; 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.4].

The requested exemption 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 plant-specific DCD Tier 1 Table 3.3-3 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 Table 3.3-3 will continue to serve its required purpose.

The proposed changes to plant-specific DCD Tier 1 Table 3.3-3 do not request removal of any information included in the AP1000 approved design; the proposed changes fulfill the intent of the table to identify those Class 1E cables present in the given fire areas. This results in a more complete Class 1E cable identification and a clear path to ITAAC closure.

The proposed exemption proposes no physical changes to the plant structures, systems, or components (SSC), plant configuration, or plant design. The information that the Licensee proposes to add to Tier 1 Table 3.3-3 was previously considered by the NRC during AP1000 design approval. The changes are intended to facilitate ITAAC closure by removing ambiguity regarding the presence of Class 1E cables in previously specified fire areas.

The changes to plant-specific Tier 1 Table 3.3-3 do not represent any adverse impact to the design function of the PMS, voting logic, or cable separation. It will continue to protect the health and safety of the public in the same manner and does 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 change 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, this change does 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 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) and 10 CFR 50.12(a)(2)(iv).

Section 50.12(a)(2)(ii) 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.

The proposed change would revise plant-specific Tier 1 Table 3.3-3 to include the presence of Class 1E PMS interdivisional fiber-optic cables terminating in PMS cabinets within the applicable fire areas in the table. The proposed changes do not affect any function or feature used for the prevention and mitigation of accidents or their safety analyses. No safety-related structure, system, component (SSC) or function is involved. The proposed changes do not involve nor interface with any SSC accident initiator or initiating sequence of events related to the accidents evaluated and therefore do not have an adverse effect on any SSC's design function. Accordingly, this exemption from the certification information will enable the Licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR Part 52, Appendix D.

Therefore, special circumstances in Section 50.12(a)(2)(ii) 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 is not necessary to achieve the underlying purpose of the rule.

Additionally, Section 50.12(a)(2)(iv) defines special circumstances as when "The exemption would result in benefit to the public health and safety that compensates for any decrease in safety that may result from the grant of the exemption."

As described above, the exemption would allow the Licensee to modify information in Tier 1 Table 3.3-3, Class 1E Divisions in Nuclear Island Fire Areas, to identify the presence of PMS interdivisional fiber-optic cables terminating within certain fire areas

identified in it. Without these interdivisional cables identified in the table, ambiguity is introduced into the ITAAC 7.c.i.a. closure process since Tier 1 Table 3.3-3 is the point of comparison between the design and the as-built plant during ITAAC closure. Proactively removing this ambiguity provides a benefit to the public health and safety by facilitating successful ITAAC closure. This change would not result in any physical change to the plant, the plant design, or plant design functions as information is being added to the table to meet its intent, and does not adversely impact the requirements of the ITAAC.

Therefore, special circumstances in Section 50.12(a)(2)(iv) are present, because the proposed exemption would reduce ambiguity between the ITAAC design commitment and the as-built plant, thus facilitating ITAAC closure, and resulting in a benefit to the public health and safety.

**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 changes to the plant-specific Tier 1 information and the understanding that these changes facilitate closure of ITAAC 7.c.i.a and 7.e, from DCD Tier 1 Table 3.3-6, it is expected that this exemption may be requested by other AP1000 licensees and applicants. However, a review of the reduction in standardization resulting from the departure from the DCD determined that even if other AP1000 licensees and applicants do not request this same departure and exemption, the special circumstances will continue to outweigh any decrease in safety from the reduction in standardization because the proposed changes to Tier 1 Table 3.3-3 support the intent of the table to identify the presence of Class 1E cables within the given fire areas and thereby facilitate successful ITAAC closure.

The changes proposed by the Licensee described in this exemption request and the associated License Amendment Request do not result in a decrease in safety resulting from the reduction in standardization due to the proposed exemption. The proposed exemption relates to the LAR that updates the content of Table 3.3-3 and facilitates the ITAAC closure process by removing ambiguity. The Licensee (and other licensees) likely would address the related ITAAC in the same manner with or without the exemption.

Nonetheless, even if the potential reduction in standardization could result in a decrease in safety, any potential decrease in safety is outweighed by the special circumstances described above. The justification provided in the license amendment request and this exemption request and the associated licensing basis mark-ups demonstrate that there is a limited change from the standard information provided in the generic AP1000 DCD, and that information is unnecessary to achieve the underlying purpose of the rule. Moreover, as explained above, the exemption would allow the Licensee to remove existing ambiguity in the ITAAC 7.c.i.a closure process and ensure that the as-built plant conforms to the design commitment in the ITAAC. These benefits, including benefits to the public health and safety to ensure that the ITAAC are fully completed, outweigh any potential decrease in safety that may result from the reduction in standardization caused by the exemption. This change would

not result in any physical change to the plant, the plant design, or plant design functions as information is being added to Tier 1 Table 3.3-3 to meet its intent and does not impact the requirements of the ITAAC.

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 exemption revises the plant-specific DCD Tier 1 Table 3.3-3 information regarding the identification of Class 1E cables in nuclear island fire areas, as discussed in Section 2.0. The changes to Tier 1 Table 3.3-3 facilitate ITAAC closure and meet the intent of the table by adding additional information rather than deleting information. There are no proposed changes to plant SSCs or design functions and the proposed changes do not impact safety-related equipment. The proposed changes do not create the possibility of a new or different accident from any accident previously evaluated or reduce any margin of safety as the interdivisional fiber-optic cables added to the table were considered during the AP1000 design certification process. Since the intent of DCD Tier 1 Table 3.3-3 continues to be met by the information added to the table and the proposed changes facilitate ITAAC closure, there is no reduction 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 51.22(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 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 proposed changes to plant-specific DCD Tier 1 Table 3.3-3 are necessary to identify PMS Class 1E interdivisional fiber-optic cables terminating in nuclear island fire areas and facilitate ITAAC closure. 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 Design. 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

None.

**Southern Nuclear Operating Company**

**ND-17-0578**

**Enclosure 3**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Proposed Changes to the Licensing Basis Documents**

**(LAR-17-011)**

**Note:**
Added text is shown as bold **Blue Underline**
Deleted text is shown as bold ~~**Red Strikethrough**~~
*** Indicates omitted exiting text

**(Enclosure 3 consists of 10 pages, including this cover page.)**

**Revise COL Appendix C (and Plant-specific Tier 1) Table 3.3-3 as follows:**

**Table 3.3-3**
**Class 1E Divisions in Nuclear Island Fire Areas**

| Fire Area Number | Class 1E Divisions | | | |
|---|---|---|---|---|
| | A | C | B | D |
| **Auxiliary Building Radiologically Controlled** | | | | |
| 1200 AF 01 | Yes | Yes | – | – |
| 1204 AF 01 | Yes | – | – | – |
| **Auxiliary Building Non-Radiologically Controlled** | | | | |
| 1200 AF 03 | – | – | Yes | Yes |
| 1201 AF 02 | – Note 2 | – Note 2 | Yes | – Note 2 |
| 1201 AF 03 | – Note 2 | – Note 2 | – Note 2 | Yes |
| 1201 AF 04 | – | – | Yes | Yes |
| 1201 AF 05 | – | – | Yes | Yes |
| 1201 AF 06 | – | – | Yes | Yes |
| 1202 AF 03 | – Note 2 | Yes | – Note 2 | – Note 2 |
| 1202 AF 04 | Yes | – Note 2 | – Note 2 | – Note 2 |
| 1220 AF 01 | – | – | Yes | Yes |
| 1220 AF 02 | – | – | – | Yes |
| 1230 AF 01 | Yes | Yes | – | – |
| 1230 AF 02 | – | – | Yes | Yes |
| 1240 AF 01 | Yes | Yes | – | – |
| 1242 AF 02 | Yes | | – | |

Note 1: Dash (–) indicates not applicable.

Note 2: Cables from this division in this fire area are limited to interdivisional cables terminating in this fire area.

**Revise UFSAR Tier 2 Subsection 9A.3.1.2.1.1 as follows:**

### 9A.3.1.2.1 Division A Electrical Rooms

#### 9A.3.1.2.1.1 Fire Area 1202 AF 04

* * *

**Safe Shutdown Evaluation**

Table 9A-2 lists the safe shutdown components located in this fire area. These division A electrical rooms are physically separated from the other safety-related divisions and by 3-hour fire barriers. In the event of a fire in one of these rooms, it is assumed that control of all division A components is lost. Because of the physical separation, the fire does not adversely affect the other safety-related electrical divisions. For this event, the division B, C, and D components identified in Table 9A-2 are sufficient to achieve and maintain safe shutdown.

Class 1E divisions B, C, and D interdivisional cables for data communication between divisions are in this fire area. In the event of a fire, it is assumed that data transmitted between division A and the other Class 1E divisions is lost. This loss of data does not disable the safe shutdown functions of the three Class 1E divisions.

Control room dedicated switches which are used to initiate engineered safety features at the system level are connected to the engineered safety features actuation cabinets using two-pole, energize-to-actuate, ungrounded dc circuits.

* * *

**Revise UFSAR Tier 2 Subsection 9A.3.1.2.2.1 as follows:**

**9A.3.1.2.2 Division B Electrical Rooms**

**9A.3.1.2.2.1 Fire Area 1201 AF 02**

* * *

**Safe Shutdown Evaluation**

Table 9A-2 lists the safe shutdown components located in this fire area. Division B electrical rooms are physically separated from the other safety-related divisions and nonsafety-related equipment by 3-hour fire barriers. In the event of a fire in a division B electrical room, it is assumed that control of all division B active components is lost. Because of the physical separation, the fire does not adversely affect the other safety-related electrical divisions. For this event, the division A, C, and D components identified in Table 9A-2 are sufficient to achieve and maintain safe shutdown.

Class 1E divisions A, C, and D interdivisional cables for data communication between divisions are in this fire area. In the event of a fire, it is assumed that data transmitted between division B and the other Class 1E divisions is lost. This loss of data does not disable the safe shutdown functions of the three Class 1E divisions.

Control room dedicated switches which are used to initiate engineered safety features at the system level are connected to the engineered safety features actuation cabinets using two-pole, energize-to-actuate, ungrounded dc circuits.

* * *

**Revise UFSAR Tier 2 Subsection 9A.3.1.2.3.1 as follows:**

**9A.3.1.2.3 Division C Electrical Rooms**

**9A.3.1.2.3.1 Fire Area 1202 AF 03**

* * *

**Safe Shutdown Evaluation**

Table 9A-2 lists the safe shutdown components located in this fire area. Division C electrical rooms are physically separated from the other safety-related divisions and nonsafety-related equipment by 3-hour fire barriers. In the event of a fire in a division C electrical room, it is assumed that control of all division C components is lost. Because of the physical separation, the fire does not adversely affect the other safety-related electrical divisions. The reactor coolant pumps can be tripped by the redundant division B reactor coolant pump trip switchgear, located in fire area 1220 AF 01. For this event, the division A, B, and D components identified in Table 9A-2 are sufficient to achieve and maintain safe shutdown.

Class 1E divisions A, B, and D interdivisional cables for data communication between divisions are in this fire area. In the event of a fire, it is assumed that data transmitted between division C and the other Class 1E divisions is lost. This loss of data does not disable the safe shutdown functions of the three Class 1E divisions.

Control room dedicated switches which are used to initiate engineered safety features at the system level are connected to the engineered safety features actuation cabinets using two-pole, energize-to-actuate, ungrounded dc circuits.

* * *

**Revise UFSAR Tier 2 Subsection 9A.3.1.2.4.1 as follows:**

**9A.3.1.2.4 Division D Electrical Rooms**

**9A.3.1.2.4.1 Fire Area 1201 AF 03**

* * *

**Safe Shutdown Evaluation**

Table 9A-2 lists the safe shutdown components located in this fire area. These division D electrical rooms are physically separated from the other safety-related divisions by 3-hour fire barriers. In the event of a fire in one of these rooms, it is assumed that control of all division D components is lost. Because of the physical separation, the fire does not adversely affect the other safety-related electrical divisions. For this event, the division A, B, and C components identified in Table 9A-2 are sufficient to achieve and maintain safe shutdown.

Class 1E divisions A, B, and C interdivisional cables for data communication between divisions are in this fire area. In the event of a fire, it is assumed that data transmitted between division D and the other Class 1E divisions is lost. This loss of data does not disable the safe shutdown functions of the three Class 1E divisions.

Control room dedicated switches which are used to initiate engineered safety features at the system level are connected to the engineered safety features actuation cabinets using two-pole, energize-to-actuate, ungrounded dc circuits.

* * *

**Revise Table 9A-2 (Sheet 9 of 14), Safe Shutdown Components, as follows:**

| Fire Area/ Fire Zone | System | Description | Class 1E Division | | | |
|---|---|---|---|---|---|---|
| | | | A | C | B | D |
| 1201 AF 02 | | 250 Vdc Switchboard | | | DS-2 | |
| | | 208/120 Vac Inverter | | | DU-1 | |
| | | 208/120 Vac Inverter | | | DU-2 | |
| | | Regulating Transformer | | | DT-1 | |
| | | Battery Charger | | | DC-1 | |
| | | Battery Charger | | | DC-2 | |
| | | Voltage to Class 1E Battery Charger | | | --- 002 | |
| | | Voltage to Class 1E Battery Charger | | | --- 006 | |
| | PMS | Protection and Safety Monitoring System Cabinets | | | | |
| | | Class 1E Cables | Note 2 | Note 2 | Note 2 | Note 2 |
| | IDSB | Electrical Penetration | | | EY-P32Y | |
| | | 250 Vdc MCC | | | DK-1 | |
| | | Electrical Penetration | | | EY-P30Z | |
| | | Electrical Penetration | | | EY-P31Y | |
| 1201 AF 03 | IDSD | Battery 1A | | | | DB-1A |
| | | Battery 1B | | | | DB-1B |
| | | 250 Vdc Distribution Panel | | | | DD-1 |
| | | 208/120 Vac Distribution Panel | | | | EA-1 |
| | | 208/120 Vac Distribution Panel | | | | EA-2 |
| | | 250 Vdc Switchboard | | | | DS-1 |
| | | 208/120 Vac Inverter | | | | DU-1 |
| | | Regulating Transformer | | | | DT-1 |
| | | Battery Charger | | | | DC-1 |
| | | Voltage to Class 1E Battery Charger | | | | --- 004 |
| | | Voltage to Class 1E Battery Charger | | | | --- 008 |
| | PMS | Protection and Safety Monitoring System Cabinets | | | | |
| | | Class 1E Cables | Note 2 | Note 2 | Note 2 | Note 2 |

**Table 9A-2 (Sheet 12 of 14), Safe Shutdown Components, as follows:**

| Fire Area/ Fire Zone | System | Description | Class 1E Division | | | |
|---|---|---|---|---|---|---|
| | | | A | C | B | D |
| 1202 AF 03 | IDSC | 208/120 Vac Distribution Panel | | EA-1 | | |
| | | 208/120 Vac Distribution Panel | | EA-2 | | |
| | | 208/120 Vac Distribution Panel | | EA-3 | | |
| | | 250 Vdc Switchboard | | DS-1 | | |
| | | 250 Vdc Switchboard | | DS-2 | | |
| | | 208/120 Vac Inverter | | DU-1 | | |
| | | 208/120 Vac Inverter | | DU-2 | | |
| | | Regulating Transformer | | DT-1 | | |
| | | Battery Charger | | DC-1 | | |
| | | Battery Charger | | DC-2 | | |
| | | Voltage to Class 1E Battery Charger | | ---003 | | |
| | | Voltage to Class 1E Battery Charger | | ---007 | | |
| | PMS | Protection and Safety Monitoring System Cabinets | | | | |
| | | Class 1E Cables | Note 2 | Note 2 | Note 2 | Note 2 |
| | ECS | 6900V RCP 1A Switchgear | | ES-31 | | |
| | | 6900V RCP 2A Switchgear | | ES-51 | | |
| | | 6900V RCP 1B Switchgear | | ES-41 | | |
| | | 6900V RCP 2B Switchgear | | ES-61 | | |
| | IDSC | Electrical Penetration | | EY-P27Z | | |
| | | Electrical Penetration | | EY-P29Y | | |
| | | Electrical Penetration | | EY-P28Y | | |
| | | 250 Vdc MCC | | DK-1 | | |

**Table 9A-2 (Sheet 13 of 14), Safe Shutdown Components, as follows:**

| Fire Area/ Fire Zone | System | Description | Class 1E Division | | | |
|---|---|---|---|---|---|---|
| | | | A | C | B | D |
| 1202 AF 04 | IDSA | Battery 1A | DB-1A | | | |
| | | Battery 1B | DB-1B | | | |
| | | 250 Vdc Distribution Panel | DD-1 | | | |
| | | 208/120 Vac Distribution Panel | EA-1 | | | |
| | | 208/120 Vac Distribution Panel | EA-2 | | | |
| | | 250 Vdc Switchboard | DS-1 | | | |
| | | 208/120 Vac Inverter | DU-1 | | | |
| | | Regulating Transformer | DT-1 | | | |
| | | Battery Charger | DC-1 | | | |
| | | Voltage to Class 1E Battery Charger | --- 001 | | | |
| | | Voltage to Class 1E Battery Charger | --- 005 | | | |
| | PMS | Protection and Safety Monitoring System Cabinets | | | | |
| | | Class 1E Cables | Note 2 | Note 2 | Note 2 | Note 2 |
| 1202 AF 05 | PMS | Transfer Switch Set | JW-004A | JW-004C | JW-004B | JW-004D |
| 1210 AF 01 | IDS | Spare Battery (DB-1A) | Note 1 | Note 1 | Note 1 | Note 1 |
| | | Spare Battery (DB-1B) | Note 1 | Note 1 | Note 1 | Note 1 |
| | | Spare Battery Charger(DC-1) | Note 1 | Note 1 | Note 1 | Note 1 |
| | | Spare Fuse Transfer Box (DF-1) | Note 1 | Note 1 | Note 1 | Note 1 |
| 1220 AF 01 | IDS | Class 1E Cable Trays | | | Note 1 | Note 1 |
| | ECS | 6900V RCP 1A Switchgear | | | ES-32 | |
| | | 6900V RCP 2A Switchgear | | | ES-52 | |
| | | 6900V RCP 1B Switchgear | | | ES-42 | |

**Revise Table 9A-2 (Sheet 14 of 14), Safe Shutdown Components, as follows:**

| Fire Area/ Fire Zone | System | Description | Class 1E Division | | | |
|---|---|---|---|---|---|---|
| | | | A | C | B | D |
| 1220 AF 01 | ECS | 6900V RCP 2B Switchgear | | | ES-62 | |
| 1220 AF 02 | CVS | Letdown Containment Isolation Valve | | | | V047 |
| | | Makeup Line Cont. Isolation Valve | | | | V090 |
| | WLS | Sump Discharge Cont. Isolation Valve | | | | V057 |
| | | RCDT Gas Outlet Cont. Isolation Valve | | | | V068 |
| 1230 AF 01 | IDS | Class 1E Cable Trays | Note 1 | Note 1 | | |
| 1230 AF 02 | IDS | Class 1E Cable Trays | | | Note 1 | Note 1 |
| 1232 AF 01 | | Remote Shutdown Room | | | | |
| | IDS | Class 1E Cable Trays | Note 1 | Note 1 | Note 1 | Note 1 |
| 1240 AF 01 | IDS | Class 1E Cable Trays | Note 1 | Note 1 | | |
| 1242 AF 01 | | MCR Workstation | | | | |
| | IDS | Class 1E Cable Trays | Note 1 | Note 1 | Note 1 | Note 1 |
| 1242 AF 02 | IDSA | Class 1E Electrical Penetration | EY-P11Z | | | |
| | | Class 1E Electrical Penetration | EY-P12Y | | | |
| | | Class 1E Electrical Penetration | EY-P13Y | | | |
| | | 250 Vdc MCC | DK-1 | | | |
| 1243 AF 01 | | Reactor Trip Switchgear I | | | | |
| | IDS | Class 1E Cables | Note 1 | Note 1 | Note 1 | Note 1 |
| 1243 AF 02 | | Reactor Trip Switchgear II | | | | |
| | IDS | Class 1E Cables | Note 1 | Note 1 | Note 1 | Note 1 |

**Notes:**

1. This represents equipment such as cables that have no associated tag number.

2. Class 1E interdivisional cables for data communication are addressed in the applicable Appendix 9A Fire Area Description.