

Southern Nuclear Operating Company  
Vogtle Electric Generating Plant, Units 3 & 4  
COL Application

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**A. STD and VEGP Departures**

This Departure Report includes deviations in the VEGP COL application FSAR from the information in the AP1000 Design Control Document (DCD), pursuant to 10 CFR Part 52, Appendix D, section VIII and section X.B.1.

The following departures are described and evaluated in detail in this report.

<u>Departure Number</u>	<u>Description</u>
VEGP DEP 1.1-1	Administrative departure for organization and numbering for the FSAR sections
VEGP DEP 9.2-1	Potable Water System (PWS) filtration
VEGP DEP 18.8-1	Emergency Response Facility Locations

**A.1 Departures That Can Be Implemented Without Prior NRC Approval**

<u>Departure Number</u>	<u>Description</u>
VEGP DEP 1.1-1	Administrative departure for organization and numbering for the FSAR sections
VEGP DEP 9.2-1	Potable Water System (PWS) filtration

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Departure Number: VEGP DEP 1.1-1

Affected DCD/FSAR Sections: 2.1.1, 2.1.4, 2.2.1, 2.2.4, 2.4.1, 2.4.15, 2.5, 2.5.7, 9.2.11, 9.2.12, 9.2.13, 9.5.1.8, 9.5.1.9, 13.1, 13.1.4, 13.3.6, 13.5, 13.5.3, 13.7, 17.5, 17.6, 17.7, 17.8

Summary of Departure:

This FSAR generally follows the AP1000 DCD organization and numbering. Some organization and numbering differences are adopted where necessary to include additional material, such as additional content identified in Regulatory Guide 1.206.

The VEGP ESPA follows organization and numbering practices enumerated in Review Standard RS-002, Regulatory Guide 1.70, and NUREG-0800 (see [ESPA Table 1-2](#)).

Scope/Extent of Departure:

The renumbered sections associated with this departure are identified in the FSAR (at the sections identified above).

Departure Justification:

An administrative departure is established to identify instances where the renumbering of FSAR sections is necessary to effectively include content consistent with Regulatory Guide 1.206, as well as NUREG-0800, Standard Review Plan.

Departure Evaluation:

This Tier 2 departure is an administrative change that affects only section numbering of the indicated FSAR sections. Accordingly, it does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD;

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4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses.

This Tier 2 departure does not affect resolution of an ex-vessel severe accident design feature identified in the plant-specific DCD.

Therefore, this departure has no safety significance.

NRC Approval Requirement:

This departure does not require NRC approval pursuant to 10 CFR Part 52, Appendix D, Section VIII.B.5.

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Departure Number: VEGP DEP 9.2-1

Affected DCD/FSAR Sections: 9.2.5.3

Summary of Departure:

The DCD states that filtered water is supplied from a site-specific water source for the potable water system (PWS). At Vogtle, the PWS is supplied by the well water subsystem of the Raw Water System (RWS). Filtration of the PWS source is not required.

Scope/Extent of Departure:

This departure is identified in **FSAR Section 9.2**.

Departure Justification:

The source water for the PWS is from plant deep wells, similar to the source water for Unit 1 and 2. Based on Unit 1 and 2 plant experience, the well water quality is such that no additional filtration is required. The PWS source meets applicable Georgia Environmental Protection Division standards for safe drinking water. This departure does not adversely affect any safety-related system, nor does it conflict with applicable regulatory guidance.

Departure Evaluation:

This Tier 2 departure is associated with a non safety-related system. It results in suitable drinking water and does not adversely impact the potable water system. Accordingly, it does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD;

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Departure Number: VEGP DEP 9.2-1 (continued)

6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses.

This Tier 2 departure does not affect resolution of an ex-vessel severe accident design feature identified in the plant-specific DCD.

Therefore, this departure has no safety significance.

NRC Approval Requirement:

This departure does not require NRC approval pursuant to 10 CFR Part 52, Appendix D, Section VIII.B.5.

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**A.2 Departures That Require NRC Approval Prior to Implementation**

<u>Departure Number</u>	<u>Description</u>
VEGP DEP 18.8-1	Emergency Response Facility Locations

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Departure Number: VEGP DEP 18.8-1

Affected DCD/FSAR Sections: 1.1 (Figure 1.1-202), 1.2.3 and Figure 1.2-201, 9A, 12.3, 12.5.2.2, 13.3.8, 18.8.3.5, and 18.8.3.6

Summary of Departure:

At VEGP, the Technical Support Center (TSC) is not located in the control support area (CSA) as identified in **DCD Subsection 18.8.3.5**; the TSC location is as described in the **ESPA Part 5** (Emergency Plan).

Additionally, the Operations Support Center (OSC) is also being moved from the location identified in **DCD Subsections 12.5.2.2** and **18.8.3.6** and as identified on DCD figures in **Subsections 1.2** and **12.3**, and **Appendix 9A**. The OSC location is as described in **ESPA Part 5**.

Scope/Extent of Departure:

This departure is identified in **FSAR Subsection 18.8.3.5** and **18.8.3.6**. Additionally, this departure is identified on FSAR Figure **1.1-202** and FSAR Figures **1.2-201**, **9A-201**, **12.3-201**, **12.3-202**, and **12.3-203**, which replace DCD Figures **1.2-18**, **9A-3** (Sheet 1 of 3), **12.3-1** (Sheet 11 of 16), **12.3-2** (Sheet 11 of 15), and **12.3-3** (Sheet 11 of 16).

Departure Justification:

The referenced DCD states “The TSC is located in the control support area (CSA).” This is not the case for VEGP. The TSC location is moved to a central location such that a single TSC can serve both VEGP Units 3 and 4 as identified in the Emergency Plan. The referenced DCD also states “The ALARA briefing and operational support center is located off the main corridor immediately beyond the main entry to the annex building” and indicates that the OSC location is identified on **Figure 1.2-18**. At VEGP Units 3 and 4, the OSC is located in the Unit 3 and 4 control support areas, vacated by relocating the unit TSCs to a common site TSC, to better utilize the available space.

Departure Evaluation:

- I. Relocation of the OSC — This Tier 2 departure is for a non safety-related system, and the alternate location of the OSC meets applicable requirements. Relocating the OSC does not adversely affect its function and, therefore, this departure does not:
  1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD;

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2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses.

This Tier 2 departure does not affect resolution of an ex-vessel severe accident design feature identified in the plant-specific DCD.

Therefore, this departure has no safety significance.

- II. Relocation of the TSC — This Tier 2\* departure from **DCD Subsection 18.8.3.5** requires prior NRC approval in accordance with 10 CFR 52 Appendix D, Section VIII.B.6.b. The details regarding the proposed TSC location and features are provided in **ESPA Part 5** (Emergency Plan). Approval of the Tier 2\* departure is requested as part of this COLA.

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**B. VEGP Exemption Requests**

SNC requires the following exemptions related to:

1. (Not used)
2. Combined License Application Organization and Numbering

Discussion and justification for this request is provided in the following pages.

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**1) Fitness for Duty Program Description (10 CFR Part 26)**

Withdrawn—this exemption is no longer required.

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**2) Combined License Application Organization and Numbering (Part 52, Appendix D)**

Applicable Regulation(s): 10 CFR Part 52, Appendix D, Section IV.A.2.a

Specific wording from which exemption is requested:

IV. Additional Requirements and Restrictions

A. An applicant for a combined license that wishes to reference this appendix shall, in addition to complying with the requirements of 10 CFR 52.77, 52.78, and 52.79, comply with the following requirements:

1. Incorporate by reference, as part of its application, this appendix.

2. Include, as part of its application:

a. A plant-specific DCD containing the same type of information and using the same organization and numbering as the generic DCD for the AP1000 design, as modified and supplemented by the applicant's exemptions and departures;

Pursuant to 10 CFR 52.7 and 52.93 (as amended and promulgated effective September 27, 2007), Southern Nuclear Operating Company (SNC) requests an exemption from the requirement of 10 CFR 52, Appendix D, Section IV.A.2.a, to include a plant-specific DCD "containing the same type of information and using the same organization and numbering as the generic DCD for the AP1000 design..." While the Vogtle Electric Generating Plant (VEGP) plant-specific DCD (i.e., the FSAR) contains the same type of information and generally follows the same organization and numbering as the generic DCD for the AP1000 design, a limited number of subsections of the FSAR and the referenced Early Site Permit Application, (as identified in departures report item VEGP DEP 1.1-1), do not follow the "same organization and numbering as the generic DCD for the AP1000 design." SNC proposes to provide the VEGP Units 3 and 4 FSAR with some administrative revisions to the organization and numbering of the AP1000 DCD.

Discussion:

The AP1000 Design Control Document (DCD) generally has an organization and numbering format that provides text by subject in general conformance with the Standard Review Plan (SRP) in effect at the time the DCD was written. Generally, COL information items are included at the end of a chapter, section, or subsection. In some cases, such as the **DCD Sections 2.1** and **2.2**, the section may consist solely of a short description of the topic and the COL information item subsection. This organization and numbering does not allow for the detailed discussion of the topics to be included in a complete FSAR section. As such, it is necessary to include numerous additional subsections to fully address the topics identified in the guidance of Regulatory Guide 1.206 and the applicable SRP. In other cases, the organization and numbering must be modified slightly to allow for inclusion of plant-specific discussions within the appropriate section of the FSAR, such as including an additional water system description in **Section 9.2**. In these cases, the COL information item discussions are retained at the end of the DCD corresponding chapter, section, or subsection (to maintain the organization), but the numbering may be different.

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These differences are well identified in the FSAR as VEGP DEP 1.1-1 at each location where the organization and numbering departure is taken and are considered to be purely administrative to support a logical construction of the document. Where the departure from the DCD organization and numbering is taken, the revised organization and numbering generally follows the guidance provided in Regulatory Guide 1.206 and the applicable SRP. As such, there are no significant departures from the expected organization and numbering of a typical FSAR, and the information is readily identifiable to facilitate NRC review.

In view of the above, it would be less efficient for both SNC and the NRC to comply with the portion of the regulation of 10 CFR Part 52, Appendix D, Section IV.A.2.a, that requires strict adherence to the “same organization and numbering as the generic DCD for the AP1000 design.” Accordingly, SNC hereby submits a request for an exemption from the regulations of 10 CFR 52, Appendix D, Section IV.A.2.a, pursuant to 10 CFR 52.7, “Specific exemptions,” and 10 CFR 52.93, “Exemptions and variances.”

Granting this request, which is authorized by law, would facilitate the NRC review of the VEGP COL application. For this and other reasons, granting this exemption request will not present an undue risk to the public health and safety, and is consistent with the common defense and security.

Moreover, compliance with the current rule would cause undue hardship for SNC and would also be inefficient and burdensome for the NRC staff. That approach would require SNC to prepare, and the NRC to review, information with an organization and numbering that is unfamiliar and inconsistent with the current guidance for format and content of a COL application.

Additionally, compliance with Appendix D, Section IV.A.2.a is not necessary to achieve its underlying purpose. Most of the FSAR conforms to the organization and numbering of the referenced DCD. The exceptions are limited and do not lead to confusion regarding the incorporation of the DCD into the FSAR.

For these reasons, SNC requests approval of the requested exemption from current regulations of 10 CFR 52, Appendix D, Section IV.A.2.a, as identified herein and in the application departures report.

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**C. VEGP Variances**

SNC requests the following variances in the VEGP COLA FSAR from the VEGP ESPA SSAR:

<u>ESP Variance Number</u>	<u>Description</u>
VEGP VAR 1.6-1	Variance from SSAR Section 1.6: Material Incorporated by Reference
VEGP VAR 1.6-2	Variance from SSAR Section 3.8.5: Foundations
VEGP VAR 1.6-3	Variance from SSAR Chapter 15: Accident Analyses
VEGP VAR 1.2-1	Variance from SSAR Section 1.2: General Site Description, Section 13.3, and ESPA Part 5
VEGP VAR 2.2-1	Variance from SSAR Section 2.2.3.2.3, and ESPA SSAR Table 2.2-6: Potential Hazards
VEGP VAR 2.3-1	Variance from SSAR Section 2.3.1.5: Meteorology

These requested variances are made pursuant to 10 CFR 52.93. A summary and justification for each of these are provided below.

Variance Number: VEGP VAR 1.6-1

Summary of Variance:

**ESPA SSAR Section 1.6**, Material Incorporated by Reference, is not incorporated by reference into the COLA FSAR.

Justification for Variance:

**Section 1.6** of the ESPA SSAR contains a reference to Revision 15 of the AP1000 DCD. This information has been superseded by Revision 17 of the AP1000 DCD, **Section 1.6**, which is incorporated by reference into the VEGP COLA FSAR. Revision 17 of the AP1000 DCD contains the most updated information and is currently under review by the NRC. Therefore, a variance is required to not incorporate **Section 1.6** of the ESPA SSAR because it contains superseded information. The VEGP COLA incorporates by reference the updated information from **Section 1.6** of DCD Revision 17.

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Variance Number: VEGP VAR 1.6-2

Summary of Variance:

The first paragraph of **ESPA SSAR Section 3.8.5**, Foundations, is not incorporated by reference into the COLA FSAR. The first sentence of the second paragraph in **ESPA SSAR Subsection 3.8.5.1.1** is not incorporated by reference into the COLA FSAR.

Justification for Variance:

The first paragraph of **Section 3.8.5** of the ESPA SSAR contains a reference to Revision 15 of the AP1000 DCD. This information has been superseded by **Section 3.8.5** of the AP1000 DCD, Revision 17, which is incorporated by reference into the VEGP COLA FSAR. Revision 17 of the AP1000 DCD contains the most updated information and is currently under review by the NRC. Therefore, a variance is required to not incorporate the first paragraph of **ESPA SSAR Section 3.8.5**. The VEGP COLA incorporates by reference the updated information from **Section 3.8.5** of DCD Revision 17.

The first sentence of the second paragraph in **ESPA SSAR Subsection 3.8.5.1.1** contains a reference to a departure from the AP1000 DCD that is no longer needed since the DCD was revised to include this waterproofing option in Revision 17. Therefore, a variance is required to not incorporate this statement.

Variance Number: VEGP VAR 1.6-3

Summary of Variance:

**ESPA SSAR Chapter 15**, Accident Analyses, is not incorporated by reference into the COLA FSAR.

Justification for Variance:

**Chapter 15** of the ESPA SSAR contains accident release information based upon Revision 15 of the AP1000 DCD. This information has been superseded by the associated section of Revision 17 of the AP1000 DCD, which is incorporated by reference into the VEGP COLA FSAR. Revision 17 of the AP1000 DCD contains the most updated information and is currently under review by the NRC. A variance is required to not incorporate by reference **ESPA SSAR Chapter 15**.

Variance Number: VEGP VAR 1.2-1

Summary of Variance:

**ESPA SSAR Figures 1-4, 1-5, 13.3-2**, and **ESPA Part 5 Figure ii** are not incorporated by reference into the COLA FSAR.

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Justification for Variance:

ESPA SSAR Figures 1-4, 1-5, 13.3-2, and ESPA Part 5 Figure ii contain site layout information which has been superseded by information contained in COLA FSAR Section 1.1 Figure 1.1-202. This information is currently under review by the NRC. A variance is required to not incorporate ESPA SSAR Figures 1-4, 1-5, 13.3-2, and ESPA Part 5 Figure ii.

Variance Number: VEGP VAR 2.2-1

Summary of Variance:

The last paragraph of ESPA 2.2.3.2.3 and ESPA SSAR Table 2.2-6 are not incorporated by reference into the COLA FSAR.

Justification for Variance:

The last paragraph of ESPA 2.2.3.2.3 and ESPA Table 2.2-6 contain information related to onsite chemicals. This information has been superseded by information contained in Sections 2.2 and 6.4 of COLA FSAR, which is currently under review by the NRC. A variance is required to not incorporate the last paragraph of ESPA 2.2.3.2.3 and ESPA Table 2.2-6.

Variance Number: VEGP VAR 2.3-1

Summary of Variance:

The following changes to the ESPA SSAR, associated with design basis temperatures, are being made: (1) the third from last and second from last paragraphs of ESPA SSAR 2.3.1.5 are being replaced by a new paragraph shown in COLA FSAR Section 2.3.1.5; (2) ESPA SSAR Table 1-1 Minimum Dry Bulb, Maximum Normal Dry Bulb and Coincident Wet Bulb, and Maximum Normal Wet-Bulb (Non-coincident) characteristics are being replaced.

Justification for Variance:

The third from last and second from last paragraphs of ESPA 2.3.1.5, as well as the ESPA SSAR Table 1-1 temperature characteristics described in the summary, contain design basis dry- and wet-bulb temperature meteorological information. This information is being replaced by information contained in the replacement paragraph shown in COLA FSAR Section 2.3.1.5 (and also shown in COLA FSAR Table 2.0-201). The COLA FSAR is currently under review by the NRC. A variance is required to replace the third from last and second from last paragraphs of ESPA 2.3.1.5, as well as ESPA SSAR Table 1-1 temperature characteristics described in the summary. These changes are provided to conform to AP1000 DCD Revision 17 changes.