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SOUTHERN COMPANY

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4 Combined License Application
Voluntary Revision to Final Safety Analysis Report Chapter 2

Ladies and Gentlemen:

By letter dated March 28, 2008, Southern Nuclear Operating Company (SNC) submitted an application for combined licenses (COLs) for proposed Vogtle Electric Generating Plant (VEGP) Units 3 and 4 to the U.S. Nuclear Regulatory Commission (NRC) for two Westinghouse AP1000 reactor plants, in accordance with 10 CFR Part 52. VEGP, the current Reference COL Application (R-COLA), is supplementing the VEGP Units 3 and 4 COL Application by revising Chapter 2 of the Final Safety Analysis Report (FSAR) to address recently identified AP1000 Design Control Document (DCD) revisions to site parameter information. The enclosure to this letter contains the FSAR Chapter 2 changes.

If you have any questions regarding this letter, please contact Mr. Wes Sparkman at (205) 992-5061 or Ms. Amy Aughtman at (205) 992-5805.

D092
NRO

Mr. B. L. Ivey states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

B. L. Ivey

Sworn to and subscribed before me this 1st *day of* July, *2010*

Notary Public: Deborah A. Jaworka

My commission expires: October 24, 2012

BLI/AGA

Enclosure: Voluntary Revision to VEGP Units 3 and 4 COL Application FSAR Chapter 2

cc: Southern Nuclear Operating Company
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Mr. J. T. Gasser, Executive Vice President, Nuclear Operations (w/o enclosure)
Mr. D. H. Jones, Site Vice President, Vogtle 3 & 4 (w/o enclosure)
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Document Services RTYPE: AR01.1053
File AR.01.02.06

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Southern Nuclear Operating Company

ND-10-1300

Enclosure

Voluntary Revision

to

VEGP Units 3 and 4 COL Application

FSAR Chapter 2

NuStart Qb Tracking No. 4169

VEGP SUP 02.00-01

In the course of the Design Control Document (DCD) review, Westinghouse has revised several of the site parameters used to support the design of the AP1000 reactor plant. Specifically;

- Westinghouse responded to RAI-SRP-15.6.5-RSAC-02, Revision 1 (via letter DCP_NRC_002408 as submitted March 23, 2009) and included a revision to DCD Table 15A-6 for the "atmospheric dispersion factors" related site parameter to revise the information related to dose analyses for events other than the LOCA. This information was included in Note 8 of DCD Table 15A-6 in the above noted letter and was added to FSAR Table 2.0-202 as Note (h) in Revision 2. However, this note has been determined to be unnecessary for the purposes of FSAR Table 2.0-202 and will be removed to be consistent with DCD Tier 1 Table 5.0-1.

- Westinghouse responded to RAI-TR85-SEB1-37, Revision 3 (via letter DCP_NRC_002632 as submitted September 22, 2009) and included a revision to DCD Table 5.0-1 for the "soil" related site parameters to include a new parameter and associated values for - Minimum Soil Angle of Internal Friction.

- Westinghouse responded to RAI-TR85-SEB1-37, Revision 4 (via letter DCP_NRC_002878 as submitted May 14, 2010) and included a revision to DCD Table 5.0-1 to revise the AP1000 values for the "soil" related site parameter - Minimum Soil Angle of Internal Friction.

- Westinghouse responded to OI-SRP2.5-RGS1-15, Revision 0 (via letter DCP_NRC_002668 as submitted October 20, 2009) and included a revision to DCD Table 5.0-1 for the "seismic" related site parameter SSE to revise the terminology from SSE to CSDRS.

- Westinghouse responded to RAI-SRP2.5-RGS1-21, Revision 1 (via letter DCP_NRC_002897 as submitted May 28, 2010) and included revisions to DCD Table 5.0-1 for the following "soil" related site parameters:
  - Maximum Allowable Dynamic Bearing Capacity for Normal Plus Safe Shutdown Earthquake (SSE).
  - Liquefaction Potential

  This same letter also included revisions to DCD Table 5.0-1 for the following "seismic" related site parameters:
  - SSE (now CSDRS) revising references from GMRS to "envelope response spectra"
  - Fault Displacement Potential

- Westinghouse responded to RAI-TR85-SEB1-36, Revision 3 (via letter DCP_NRC_002924 as submitted June 21, 2010) and included a revision to DCD Table 5.0-1 to add a new "soil" related site parameter:
  - Limits Of Acceptable Settlement Without Additional Evaluation

Thus, Table 2.0-201 of the FSAR will be revised to incorporate these DCD changes and any corresponding plant-specific information will also be included as necessary to address the revised site parameters, as shown in the COL Application Revisions section below. These changes will be incorporated in a future COLA revision submittal.

Portions of the changes reflecting DCD information are expected to be STANDARD for each S-COLA. Portions of the changes reflecting site-specific information to address the revised site parameters are PLANT-SPECIFIC.

Associated VEGP COL Application Revisions:

1. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, first column, under the "Seismic" related site parameter, will be revised from "SSE" to "CSDRS".

   In addition, the beginning of the second column, under the "Seismic" related AP1000 DCD site parameter "SSE" (now "CSDRS"), will be revised from:

   > SSE free field peak ground acceleration of 0.30 g with modified Regulatory Guide 1.60 response spectra (See Figures 5.0-1 and 5.0-2). Seismic input is defined...

   To read:

   > CSDRS free field peak ground acceleration of 0.30 g with modified Regulatory Guide 1.60 response spectra (See Figures 5.0-1 and 5.0-2.). The SSE is now referred to as CSDRS. Seismic input is defined...

2. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, second paragraph, under the "Seismic" related AP1000 DCD site parameter SSE (now CSDRS), will be revised from:

   > The hard rock high frequency (HRHF) ground motion spectra (GMRS) are shown in Figure 5.0-3 and Figure 5.0-4 defined at the foundation level for 5% damping. The HRHF GMRS provides an alternative set of spectra for evaluation of site-specific GMRS. A site is acceptable if its site specific GMRS fall within the AP1000 HRHF GMRS.

   To read:

   > The hard rock high frequency (HRHF) envelope response spectra are shown in Figure 5.0-3 and Figure 5.0-4 defined at the foundation level for 5% damping. The HRHF envelope response spectra provide an alternative set of spectra for evaluation of site-specific GMRS. A site is acceptable if its site-specific GMRS falls within the AP1000 HRHF envelope response spectra. Evaluation of a site for application of the HRHF envelope response spectra includes consideration of the limitation on shear wave velocity identified for use of the HRHF envelope response spectra. This limitation is defined by a shear wave velocity at the bottom of the basemat equal to or higher than 7,500 fps, while maintaining a shear wave velocity equal to or above 8,000 fps at the lower depths.

3. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Seismic" related AP1000 DCD site parameter "Fault Displacement Potential," will be revised from "Negligible" to read:

   > No potential fault displacement considered beneath the seismic Category I and seismic Category II structures and immediate surrounding area. The immediate surrounding area includes the effective soil supporting media associated with the seismic Category I and seismic Category II structures.

4. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related AP1000 DCD site parameter "Maximum Allowable Dynamic Bearing Capacity for Normal Plus Safe Shutdown Earthquake (SSE)," will be revised to remove the "Maximum Allowable" portion of the parameter to read:

   Dynamic Bearing Capacity for Normal Plus Safe Shutdown Earthquake (SSE)

5. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related AP1000 DCD site parameter "Liquefaction Potential," will be revised from "Negligible" to read:

   No liquefaction considered beneath the seismic Category I and seismic Category II structures and immediate surrounding area. The immediate surrounding area includes the effective soil supporting media associated with the seismic Category I and seismic Category II structures.

6. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, third column, under the "Soil" related site specific COLA site characteristic "Liquefaction Potential" will be revised from "None" to read (this item is expected to be PLANT-SPECIFIC):

   None at the site-specific SSE.

7. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related AP1000 DCD site parameter "Minimum Soil Angle of Internal Friction," will be revised from:

   Greater than or equal to 35 degrees below footprint of nuclear island at its excavation depth.

   To read:

   The minimum soil angle of internal friction is greater than or equal to 35 degrees below the footprint of nuclear island at its excavation depth.

   If the minimum soil angle of internal friction is below 35 degrees, a site-specific analysis shall be performed using the site-specific soil properties to demonstrate stability.

8. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, first column, under the "Soil" related site parameter, will be revised to add a new site parameter:

   Limits Of Acceptable Settlement Without Additional Evaluation[(a)]

9. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related site parameter, will be revised to add the AP1000 DCD Site Parameter values for the new settlement site parameter:

Differential Across Nuclear Island Foundation Mat	1/2 inch in 50 ft
Total for Nuclear Island Foundation Mat	6 inches
Differential Between Nuclear Island and Turbine Building[(b)]	3 inches
Differential Between Nuclear Island and Other Buildings[(b)]	3 inches

   [(a)] Additional evaluation may include evaluation of the impact of the elevated estimated settlement values on the critical components of the AP1000, determining a construction sequence to control the predicted settlement

behavior, or developing an active settlement monitoring system throughout the entire construction sequence as well as a long-term (plant operation) plan.

(b) Differential settlement is measured at center of Nuclear Island and center of adjacent structures.

10. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, third-fourth-fifth columns, under the "Soil" related site parameter, will be revised to add the site specific COLA site characteristic information for the new settlement site parameter which correspond to the new DCD site parameter items (this item is expected to be PLANT-SPECIFIC):

~1/4 inch in 50 ft (projected)	ESPA SSAR 2.5.4.10.2	Yes
2 - 3 inches (projected)		(projected)
< 1 inch (projected)		
< 1 inch (projected)		

11. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-202, sheet 1 of 2, DCD column header for HVAC Intake from the "Ground Level Containment Release Points" will be revised to omit note (h) from header notations (c,h) to read: (c), and to remove note (h) from the Notes section of the table. This note currently reads:

h) The LOCA dose analysis models the ground level containment release point HVAC intake atmospheric dispersion factors. Other analyses model more conservative values.