

**Southern Nuclear  
Operating Company, Inc.**  
40 Inverness Center Parkway  
Birmingham, Alabama 35242



**APR 29 2009**

Docket Nos.: 52-025  
52-026

ND-09-0592

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

Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Units 3 and 4 Combined License Application  
Response to Request for Additional Information Letter No. 031

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. During the NRC's detailed review of this application, the NRC identified a need for additional information, involving local intense precipitation flooding, required to complete their review of the COL application's Final Safety Analysis Report (FSAR) Section 2.4, "Hydrologic Engineering." By letter dated March 30, 2009, the NRC provided SNC with Request for Additional Information (RAI) Letter No. 031 concerning this information need. This RAI letter contains one RAI question numbered 02.04.02-4. The enclosure to this letter provides the SNC response to this RAI.

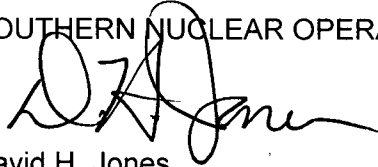
If you have any questions regarding this letter, please contact Mr. Wes Sparkman at (205) 992-5061.

DO92  
HRO

Mr. D. H. Jones states he is Site Vice President – Vogtle 3 and 4 for 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



David H. Jones

Sworn to and subscribed before me this 29 day of April, 2009

Notary Public: Gloria H. Buie

My commission expires: 05/06/09

DHJ/BJS/dmw

Enclosure: Response to NRC RAI Letter No. 031 on the VEGP Units 3 & 4 COL  
Application Involving Local Intense Precipitation Flooding

cc: Southern Nuclear Operating Company

Mr. J. H. Miller, III, President and CEO (w/o enclosure)  
Mr. J. T. Gasser, Executive Vice President, Nuclear Operations (w/o enclosure)  
Mr. J. A. Miller, Executive Vice President, Nuclear Development (w/o enclosure)  
Mr. T. E. Tynan, Vice President - Vogtle (w/o enclosure)  
Mr. D. M. Lloyd, Vogtle Deployment Director  
Mr. M. K. Smith, Technical Support Director  
Mr. C. R. Pierce, Vogtle Development Licensing Manager  
Mr. M. J. Ajluni, Nuclear Licensing Manager  
Mr. W. A. Sparkman, COL Project Engineer  
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File AR.01.02.06

Nuclear Regulatory Commission

Mr. L. A. Reyes, Region II Administrator (w/o enclosure)  
Mr. F.M. Akstulewicz, Deputy Director Div. of Safety Systems & Risk Assess. (w/o enclosure)  
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Mr. R. G. Joshi, Lead Project Manager of New Reactors  
Mr. B. Hughes, Project Manager of New Reactors  
Ms. T. E. Simms, Project Manager of New Reactors  
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Mr. M. M. Comar, Project Manager of New Reactors  
Mr. M. D. Notich, Environmental Project Manager  
Mr. J. H. Fringer, III, Environmental Project Manager  
Mr. L. M. Cain, Senior Resident Inspector of VEGP

Georgia Power Company

Mr. O. C. Harper, IV, Vice President, Resource Planning and Nuclear Development (w/o enclosure)

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Mr. S. M. Jackson, Vice President, Power Supply (w/o enclosure)

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Mr. D. Cope, President and Chief Executive Officer (w/o enclosure)

Bechtel Power Corporation

Mr. J. S. Prebula, Project Engineer (w/o enclosure)  
Mr. R. W. Prunty, Licensing Engineer

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Ms. K. K. Patterson, Project Manager

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Mr. K. B. Allison, Project Manager (w/o enclosure)  
Mr. J. M. Oddo, Licensing Manager  
Mr. D. C. Shutt, Licensing Engineer

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Westinghouse Electric Company, LLC

Mr. N. C. Boyter, Vice President, AP1000 Vogtle 3 & 4 Project (w/o enclosure)  
Mr. J. L. Whiteman, Principal Engineer, Licensing & Customer Interface

**Southern Nuclear Operating Company**

**ND-09-0592**

**Enclosure**

**Response to NRC RAI Letter No. 031**

**on the**

**VEGP Units 3 & 4 COL Application**

**Involving**

**Local Intense Precipitation Flooding**

## **FSAR Section 2.4, Hydrologic Engineering**

### **eRAI Tracking No. 2300**

#### **NRC RAI Number 02.04.02-4:**

Staff reviewed the local intense precipitation flood event as described in FSAR Section 2.4.2. In accordance with requirements based on 10 CFR 100.20(c) and 10 CFR 52.79(a), staff requests additional information concerning the drainage basins and ditches in the vicinity of Vogtle Units 3 and 4.

In FSAR Section 2.4.2.3, the Manning's roughness values provided are 0.014 and 0.015 in the ditches, and overbank values of 0.020 and 0.030. A value of 0.030 occurs in only a few of the HEC-RAS cross-sections. The applicant states in the FSAR that these values are conservative and the ditches are assumed to be well maintained. Staff's analyses of the HEC-RAS model show the water surface elevation could exceed the safety-related elevation of 220 ft msl with increased Manning's roughness.

The applicant should update the FSAR to include information regarding the planned maintenance of both the drainage channels and overbanks so that the surface roughness represented in the hydraulic model is representative of the site conditions.

#### **SNC Response:**

The required maintenance for the drainage ditches and overbank areas will be determined during the quarterly walk-through inspections of the drainage features (main drainage and feeder ditches and their overbank areas) in the Units 3 and 4 portion of the protected area and from the protected area fence through the Units 3 and 4 cooling tower area. The quarterly inspection period is consistent with the current frequency used at the VEGP site.

The inspections will include the following:

- The inspection of the concrete ditch system will identify deterioration to the finish of the ditch inverts, side slopes, and joints between sections.
- The inspection of the main and feeder drainage ditches will identify any debris, sediment, and vegetation to be removed.
- The inspection of the overbank areas will identify erosion areas to be repaired and significant overgrowth and debris to be removed.

#### **Associated VEGP COLA Application Revision:**

In a future revision of the VEGP Units 3 and 4 COL Application, the following paragraph will be added at the end of the text of FSAR Section 2.4.2.3:

"The required maintenance for the drainage ditches and overbank areas will be determined during the quarterly walk-through inspections of the drainage features (main drainage and feeder ditches and their overbank areas) in the Units 3 and 4 portion of the protected area and from the protected area fence through the Units 3 and 4 cooling tower area."