

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



**MAR 27 2009**

Docket Nos.: 52-025  
52-026

ND-09-0445

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. 027

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 chelating agents in radioactive waste liquids, required to complete their review of the COL application's Final Safety Analysis Report (FSAR) Section 2.4, "Hydrologic Engineering." By letter dated February 25, 2009, the NRC provided SNC with Request for Additional Information (RAI) Letter No. 027 concerning this information need. This RAI letter contains one RAI question numbered 01-1. 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.

DO NOT  
NRC

Mr. C. R. Pierce states he is a Licensing Manager 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

*Charles R. Pierce*

Charles R. Pierce

Sworn to and subscribed before me this 27 day of March, 2009

Notary Public: Maria H. Bui

My commission expires: 05/06/09

CRP/BJS/dmw

Enclosure: Response to NRC RAI Letter No. 027 on the VEGP Units 3 & 4 COL Application  
Involving the Chelating Agents in Radioactive Waste Liquids

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. (Buzz) Miller, Executive Vice President, Nuclear Development  
Mr. D. H. Jones, Site Vice President, Vogtle 3 & 4  
Mr. D. M. Lloyd, Vogtle Deployment Director  
Mr. M. K. Smith, Technical Support Director  
Mr. M. J. Ajluni, Nuclear Licensing Manager  
Mr. W. A. Sparkman, COL Project Engineer  
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Nuclear Regulatory Commission

Mr. L. A. Reyes, Region II Administrator (w/o enclosure)  
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Ms. S. M. Coffin, AP1000 Manager of New Reactors (w/o enclosure)  
Mr. C. J. Araguas, Lead Project Manager of New Reactors  
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Ms. T. E. Simms, Project Manager of New Reactors  
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Mr. M. D. Notich, Environmental Project Manager  
Mr. J. H. Fringer, III, Environmental Project Manager  
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Municipal Electric Authority of Georgia

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

Dalton Utilities

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

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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-09-0445**

**Enclosure**

**Response to NRC RAI Letter No. 027  
on the VEGP Units 3 & 4 COL Application  
Involving the  
Chelating Agents in Radioactive Waste Liquids**

**FSAR Section 2.4, Hydrology Engineering**

**eRAI Tracking No. 2091**

**NRC RAI Number 01-1:**

In accordance with 10 CFR 100.20(c)(3) and 10 CFR 52.79(a)(1)(iii), the following additional information is requested. Confirm that no chelating agents will be comingled with radioactive waste liquids and that such agents will not be used to mitigate an accidental release. Alternatively, the applicant may use repeated experiments that include chelating agents to produce the distribution coefficients and incorporate these newly determined distribution coefficients into the analysis to demonstrate that the requirements of 10 CFR Part 20, Appendix B, Table 2, are satisfied

**SNC Response:**

The VEGP Early Site Permit Application Site Safety Analysis Report Subsection 2.4.13 provides an analysis of a postulated accidental liquid release of effluents to the groundwater at the VEGP site. The analysis is based on an instantaneous release from one of two AP1000 effluent tanks located in the lowest level of the auxiliary building. The AP1000 standard plant design does not require the use of chelating agents in liquid radioactive waste processing, and such agents will not be used to mitigate an accidental release.

Chelating agents, as defined in 10 CFR 61.2, are not routinely used in liquid radioactive waste processing at VEGP Units 1 and 2, and similarly, they will not be routinely used in liquid radioactive processing at VEGP Units 3 and 4. In the event chelating agents are required for a specific purpose (such as cleaning of steam generators or other plant systems), an evaluation will be conducted prior to use, and specific controls will be implemented to ensure that wastes are segregated and managed appropriately to prevent commingling with plant's normal liquid radwaste systems.

**Associated VEGP COL Application Revision:**

The following change will be made in a future revision to the VEGP Units 3 and 4 FSAR:

Add the following new subsection to FSAR Subsection 11.2:

“11.2.2.1.6 Prevention of Comingling of Chelating Agents With Radioactive Liquids

VEGP ESP COL 2.4-1

Chelating agents, as defined in 10 CFR 61.2, are not routinely used in liquid radioactive waste processing at VEGP Units 1 and 2, and similarly, they will not be routinely used in liquid radioactive processing at VEGP Units 3 and 4. In the event chelating agents are required for a specific purpose (such as cleaning of steam generators or other plant systems), an evaluation will be conducted prior to use, and specific controls will be implemented to ensure that wastes are segregated and managed appropriately to prevent commingling with plant's normal liquid radwaste system.”