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

SOUTHERN COMPANY

JUN 0 6 2012

Docket Nos.: 52-025
52-026

ND-12-1043
10 CFR 50.90

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Response to Request for Additional Information Letter No. 02
Related to License Amendment Request (LAR) 12-001

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 50.90, by letter dated February 14, 2012 and revised by a letter dated March 12, 2012, Southern Nuclear Operating Company (SNC) requested an amendment to the Vogtle Electric Generating Plant (VEGP) Units 3 and 4 combined licenses (COLs) (License Nos. NPF-91 and NPF-92, respectively). During the course of their review of this LAR, the NRC staff identified the need for additional information to continue portions of the review. The NRC's request for additional information (RAI) was provided to SNC in RAI Letter No. 02 related to LAR-12-001, dated May 8, 2012 [ML12129A004]. The enclosure to this letter provides the requested response to the subject RAI, which is also referred to as electronic RAI (eRAI) 6481.

Additionally, it was recently identified that additional clarification is needed to the VEGP Units 3 and 4 plant-specific Design Control Document (DCD) to address variations that are required in the location of structural module internal shear studs to address internal obstructions and accessibility for fabrication and inspection. Accordingly, SNC is developing a supplement to LAR-12-001 to include these clarifications and incorporate the LAR revisions identified in response to this request.

This letter contains no regulatory commitments.

Should you have any questions, please contact Mr. Wesley A. Sparkman at (205) 992-5061.

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NRO

Ms. Amy G. Aughtman states that she is a Licensing Manager of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of her knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

Amy G. Aughtman

A. G. Aughtman

AGA/NH/dmw

Sworn to and subscribed before me this 6th *day of* June, *2012*

Notary Public: Dana Marie Williams

My commission expires: 12/01/2014

NOTARY PUBLIC STATE OF ALABAMA AT LARGE
MY COMMISSION EXPIRES: Dec 1, 2014
BONDED THRU NOTARY PUBLIC UNDERWRITERS

Enclosure: Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Response to Request for Additional Information Letter No. 02 Related to License Amendment Request (LAR) 12-001

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO (w/o enclosure)
Mr. J. A. Miller, Executive VP, Nuclear Development
Mr. D. A. Bost, Chief Nuclear Officer (w/o enclosure)
Mr. B. L. Ivey, VP, Regulatory Affairs
Mr. M. D. Rauckhorst, VP, Vogtle 3 & 4 Construction (w/o enclosure)
Mr. D. H. Jones, VP, Regulatory Affairs, Vogtle 3 & 4
Mr. J. R. Johnson, VP, Operational Readiness, Vogtle 3 & 4 (w/o enclosure)
Mr. T. E. Tynan, Site VP, Vogtle 1 & 2
Mr. D. M. Lloyd, Project Support Director, Vogtle 3 & 4 (w/o enclosure)
Mr. C. R. Pierce, Regulatory Affairs Director
Mr. M. J. Ajluni, Nuclear Licensing Director
Mr. D. L. Fulton, Environmental Manager
Mr. J. D. Williams, Site Support Manager, Vogtle 3 & 4 (w/o enclosure)
Mr. C. H. Mahan, Site Licensing Manager, Vogtle 3 & 4
Ms. A. G. Aughtman, Corporate Licensing Manager, Vogtle 3 & 4
Mr. W. A. Sparkman, Licensing Supervisor
Mr. D. W. Midlik, Licensing Supervisor
Document Services RTYPE: GOV0208
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Nuclear Regulatory Commission
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Mr. F. M. Akstulewicz, Deputy Director Div. of New Reactor Licensing (w/o enclosure)
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Mr. R. G. Joshi, Lead Project Manager of New Reactors
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Mr. L. M. Cain, Senior Resident Inspector of VEGP 1 & 2
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Mr. P. A. Russ, Director, AP1000 Global Licensing
Mr. R. A. DeLong, Director of U.S. & International Licensing (acting)
Mr. S. A. Bradley, Vogtle Project Licensing Manager
Mr. M. A. Melton, Manager, Regulatory Interfaces
Mr. T. J. Ray, Manager, AP1000 COL Licensing Support

Southern Nuclear Operating Company

ND-12-1043

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Response to Request for Additional Information Letter No. 02
Related to
License Amendment Request (LAR) 12-001

eRAI Tracking No. 6481

NRC RAI No. 03.08.03-1

The March 12, 2012 LAR (revised from February 14, 2012 submittal) states that the proposed amendment will revise the structural module shear stud size and spacing requirements presented in plant-specific Design Control Document (DCD) Figure 3.8.3-8, Sheet 1, Note 2 (Tier 2* information). The licensee is proposing to revise Note 2 to incorporate changes to shear stud spacing, necessitated by the use of higher-yield strength materials for the steel module faceplates. The LAR states that an additional departure from the plant-specific DCD was identified by Westinghouse to allow the use of higher strength carbon steel plate material (ASTM A572, Grade 60) for certain structural modules. The LAR letter states also that Note 2 will not be revised to reflect the shear stud spacing requirements for ASTM A572, Grade 60 plate material.

On February 29, 2012, staff performed an audit of the Westinghouse calculation supporting the proposed design change; "Design of Shear Studs for Structural Modules for Inside Containment and CA20" (APP-1100-SUC-003, Rev 3). Staff review of the LAR submittal, and supporting calculations has identified two questions requiring additional information:

1. Staff review of AP1000 DCD, Section 3.8.3.6, finds that the structural steel modules in the CIS are specified as being constructed using carbon steel plates and shapes (A36, ASTM A992, or steel with equal to or better material properties). The LAR states that higher strength (i.e., A572) will be used for "certain" structural wall modules, but does not justify the design the steel plate material change or identify which modules or portions thereof that the change pertains to. To address this issue, staff requests the licensee to provide justification for the material change from A36 to A572 and to describe which modules (or portions of) where A36 and A572 plate will be utilized.

   SNC Response:

   Higher strength carbon steel material, ASTM A572 Gr 60, is being used in place of the lower strength A36 material in the face plates of wall sections of double-faced wall modules that perform as composite structures. The use of Duplex stainless steel face plate material on wetted surfaces is unchanged. VEGP Units 3 and 4 plant-specific DCD Table 3.8.4-6 identifies A572 carbon steel as an acceptable material for use in structural and miscellaneous steel construction of the AP1000. Subsection 3.8.4.6 of the plant-specific DCD contains information relating to the materials, quality control program, and special construction techniques used in the construction of other seismic Category I structures (such as the Auxiliary Building), as well as the containment internal structures (CIS). In addition, plant-specific DCD subsection 3.8.3.6 states that the materials used in the construction of the containment internal structures are described in subsection 3.8.4.6. Subsection 3.8.4.6.1.3 refers to Table 3.8.4-6 for the materials used for steel construction. Accordingly, the use of A572 carbon steel for the construction of structural steel modules for containment internal structures and the Auxiliary Building CA20 module is not a material change from that currently described in the plant-specific DCD or the generic AP1000 DCD. (Note that all numbered section references to the plant-specific DCD are the same as for the AP1000 generic DCD.)

   The change from ASTM A36 to ASTM A572 plate material will be made for the structural wall modules CA01, CA02, CA05, and CA20 wall faceplates. A36 will no longer be used for

the face plate material of these structural wall modules, thus mixing of A36 and A572 wall faceplate materials will not occur.

There are no changes to the VEGP Units 3 and 4 plant-specific DCD or FSAR associated with this response.

2. For the shear stud spacing, it is unclear that the indicated spacing for carbon steel (10 inches horizontal and vertical) relates only to A36 material. Staff notes that the APP-1100-SUC-003, Rev 3 calculation results show that the required shear stud spacing for A572 carbon steel plate material is significantly less than the spacing for A36 plate material (10 inches versus 6 inches). Accordingly, a potential misinterpretation of the note (specified as only carbon material) could result in an excessively large stud spacing if an alternative carbon steel plate material (e.g., A572) is used. To address this concern, staff requests the licensee to revise Note 2 to clarify that the indicated stud spacing applies to A36 plate material and add the stud shear spacing requirements of the A572 plate material.

SNC Response:

Design basis calculation APP-1100-SUC-003 addresses the design maximum stud spacing requirements and design minimum stud diameter requirements for both A36 and A572 carbon steel material and Duplex 2101 material. SNC understands the NRC staff's position that a change to specifically identify the stud size and spacing requirements for carbon steel material in Note 2 would clarify this note. To avoid any misinterpretation, SNC will revise Note 2 to clarify that the indicated maximum shear stud spacing for carbon steel (CS) applies to A36 plate material. This revision to Note 2 will be included in a planned future supplement to LAR-12-001.