

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



MAR 05 2010

Docket Nos.: 52-025
52-026

ND-10-0461

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. 049
Fitness for Duty Program – Construction Phase

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 required to complete their review of the COL application's Final Safety Analysis Report (FSAR) Section 13.7, "Fitness For Duty." By letter received February 5, 2010, the NRC provided SNC with Request for Additional Information (RAI) Letter No. 049 concerning this information need. This RAI letter contains three RAI questions, numbered 13.06-33 through 13.06-35. The enclosure to this letter provides the SNC response to these questions.

This letter identifies changes that will be made to a future revision of the VEGP Units 3 and 4 combined license application (COLA) to address NRC requirements in 10 CFR Part 26.

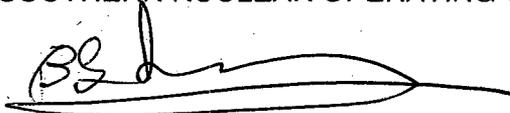
If you have any questions regarding this letter, please contact Mr. Wes Sparkman at (205) 992-5061.

0092
NRO

Mr. B. L. (Pete) 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



Brian L. (Pete) Ivey

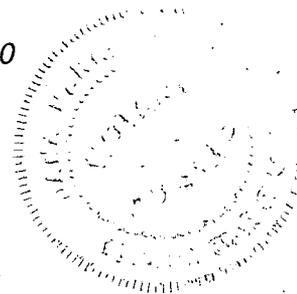
Sworn to and subscribed before me this 5th day of March, 2010

Notary Public: Dana M. Williams

My commission expires: 12/29/2010

BLI/BJS/dmw

Enclosure: Response to NRC RAI Letter No. 049 on the VEGP Units 3 & 4 COL
Application Involving the Fitness for Duty – Construction Phase Program



cc: Southern Nuclear Operating Company

Mr. J. H. Miller, III, President and CEO (w/o enclosure)
Mr. J. A. Miller, Executive Vice President, Nuclear Development (w/o enclosure)
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)
Mr. T. E. Tynan, Vice President - Vogtle (w/o enclosure)
Mr. D. M. Lloyd, Vogtle 3 & 4 Project Support Director (w/o enclosure)
Mr. M. K. Smith, Technical Support Director (w/o enclosure)
Mr. C. R. Pierce, AP1000 Licensing Manager
Mr. M. J. Ajluni, Nuclear Licensing Manager
Mr. J. D. Williams, Vogtle 3 & 4 Site Support Manager
Mr. J. T. Davis, Vogtle 3 & 4 Site Licensing Manager
Mr. W. A. Sparkman, COL Project Engineer
Document Services RTYPE: AR01.1053
File AR.01.02.06

Nuclear Regulatory Commission

Mr. L. A. Reyes, Region II Administrator
Mr. F.M. Akstulewicz, Deputy Director Div. of Safety Systems & Risk Assess. (w/o encl.)
Mr. R. G. Joshi, Lead Project Manager of New Reactors
Ms. T. E. Simms, Project Manager of New Reactors
Mr. B. C. Anderson, Project Manager of New Reactors
Mr. M. M. Comar, Project Manager of New Reactors
Ms. S. Goetz, Project Manager of New Reactors
Mr. J. M. Sebrosky, Project Manager of New Reactors
Mr. D. C. Habib, Project Manager of New Reactors
Ms. D. L. McGovern, Project Manager of New Reactors
Ms. T. L. Spicher, Project Manager of New Reactors
Ms. M. A. Sutton, Environmental Project Manager
Mr. M. D. Notich, 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

Oglethorpe Power Corporation

Mr. M. W. Price, Executive Vice President and Chief Operating Officer
Mr. K. T. Haynes, Director of Contracts and Regulatory Oversight

Municipal Electric Authority of Georgia

Mr. S. M. Jackson, Vice President, Power Supply

Dalton Utilities

Mr. D. Cope, President and Chief Executive Officer

Bechtel Power Corporation

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

Tetra Tech NUS, Inc.

Ms. K. K. Patterson, Project Manager

Shaw Stone & Webster, Inc.

Mr. K. B. Allison, Project Manager (w/o enclosure)

Mr. J. M. Oddo, Licensing Manager

Mr. D. C. Shutt, Licensing Engineer

Westinghouse Electric Company, LLC

Mr. S. D. Rupperecht, Vice President of Regulatory Affairs & Strategy (w/o enclosure)

Mr. N. C. Boyter, Consortium Project Director Vogtle Units 3 & 4 (w/o enclosure)

Mr. S. A. Bradley, Vogtle Project Licensing Manager

Mr. M. A. Melton, Manager, Regulatory Interfaces

Mr. R. B. Sisk, Manager, AP1000 Licensing and Customer Interface

Mr. D. A. Lindgren, Principal Engineer, AP1000 Licensing and Customer Interface

NuStart Energy

Mr. R. J. Grumbir

Mr. E. R. Grant

Mr. B. Hirmanpour

Mr. N. Haggerty

Ms. K. N. Slays

Other NuStart Energy Associates

Ms. M. C. Kray, NuStart

Mr. S. P. Frantz, Morgan Lewis

Mr. P. S. Hastings, NuStart & Duke Energy

Mr. J. A. Bailey, TVA

Ms. A. L. Sterdis, TVA

Mr. J. P. Berger, EDF

Mr. M. W. Gettler, FP&L

Mr. P. Hinnenkamp, Entergy

Mr. G. D. Miller, PG&N

Mr. N. T. Simms, Duke Energy

Mr. G. A. Zinke, NuStart & Entergy

Mr. R. H. Kitchen, PGN

Ms. A. M. Monroe, SCE&G

Mr. T. Beville, DOE/PM

Southern Nuclear Operating Company

ND-10-0461

Enclosure

Response to NRC RAI Letter No. 049

on the

VEGP Units 3 & 4 COL Application

Involving the

Fitness for Duty – Construction Phase Program

NOTE: The enclosed document is nine (9) pages in length.

FSAR Section 13.7, Fitness For Duty

eRAI Tracking No. 4213

NRC RAI Number 13.06-33:

Under 10 CFR 52.79(a)(44), the Applicant's FSAR must contain a description of the fitness for duty (FFD) program required by 10 CFR Part 26 and its implementation. How does the Applicant intend to update its FFD program for the construction phase? NEI 06-06 provides examples of the FFD program that is required and, if this guidance is endorsed by the NRC, will provide an acceptable method of complying with the NRC's regulations. If the NRC endorses NEI 06-06, does the Applicant intend to update its FFD program for the construction phase to comply with NEI 06-06? If future revisions to NEI 06-06 are endorsed by the NRC, does the Applicant intend to update its FFD program for the construction phase to comply with certain clarifications, additions, and exceptions in these future, endorsed revisions, as necessary?"

SNC Response:

Southern Nuclear Operating Company (SNC) submitted an FFD Program for NRC approval as part of the Limited Work Authorization (LWA) request, and that program is now being implemented as part of the construction activities. After NEI 06-06 is endorsed by the NRC, SNC plans to transition to a program that follows the guidance in NEI 06-06. The combined license application (COLA) currently commits to NEI 06-06, Rev. 4, and will be changed in a future revision to commit to NEI 06-06, Rev. 5. SNC will evaluate substantial changes in subsequent revisions to NEI 06-06 and modify the construction phase FFD program to incorporate those substantial changes determined to be appropriate.

A future revision of the COLA will reflect the changes discussed in this response.

This response is PLANT-SPECIFIC for VEGP.

Associated VEGP COL Application Revisions:

1. COLA Part 2, FSAR, Section 13.7, will be revised from:

The Fitness for Duty (FFD) Program (Program) is implemented and maintained in two phases; the construction phase program and the operating phase program. The construction and operations phase programs are implemented as identified in Table 13.4-201.

The construction phase program is consistent with NEI 06-06 (Reference 201). The workforce population subject to random testing during construction is determined on a weekly basis by averaging the total number of active construction badges over each preceding seven-day period. The random selection from each week's workforce population is identified by a standard computer-generated random number generator using this number of active badges as the range of numbers considered in the weekly random testing selection.

The operations phase program is consistent with 10 CFR Part 26.

To read:

[Reviewer's Note: The first, second, and fourth paragraphs are annotated with left-margin annotation (LMA) STD-SUP-13.7-1; the third paragraph, including bullets, is annotated with LMA VEGP-SUP-13.7-1]

The Fitness for Duty Program (FFD) is implemented and maintained in multiple and progressive phases dependent on the activities, duties, or access afforded to certain individuals at the construction site. In general, two different FFD programs will be implemented: a construction FFD program and an operations FFD program. The construction and operations phase programs are illustrated in Table 13.4-201.

The construction FFD program is consistent with NEI 06-06 (Reference 201). NEI 06-06 applies to persons constructing or directing the construction of safety- and security-related structures, systems, or components performed onsite where the new reactor will be installed and operated. Management and oversight personnel, as further described in NEI 06-06, and security personnel prior to the receipt of special nuclear material in the form of fuel assemblies (with certain exceptions) will be subject to the operations FFD program that meets the requirements of 10 CFR Part 26, Subparts A through H, N, and O. At the establishment of a protected area, all persons who are granted unescorted access will meet the requirements of an operations FFD program. Prior to issuance of a Combined License, the construction FFD program at a new reactor construction site for those subject to Subpart K will be reviewed and revised as necessary should substantial revisions occur to either NEI 06-06 following NRC endorsement or the requirements of 10 CFR Part 26.

The following site-specific information is provided:

- The construction site is defined in the Physical Security Plan, Appendix E and is under the control of Shaw Stone & Webster (Shaw). The 10 CFR Part 26 requirements are implemented for the construction site area based on the descriptions provided in Table 13.4-201.
- Construction Workers & First Line Supervisors (Shaw employees and subcontractors) are covered by the SNC-approved Shaw FFD Program (elements Subpart K).
- SNC employees and SNC subcontractor's construction management and oversight personnel are covered by the VEGP Units 1 and 2 Operations FFD Program and Shaw's employees and Shaw's subcontractors construction management and oversight personnel are covered by the SNC-approved Shaw FFD Program (elements Subpart A - H, N and O).
- SNC security personnel are covered by the VEGP Units 1 and 2 Operations FFD Program and Shaw's security personnel are covered by the SNC-approved Shaw FFD Program (elements Subpart A - H, N and O). This coverage is applicable from the start of construction activities to the earlier of (1) the receipt of SNM in the form of fuel assemblies, (2) the establishment of a protected area, or (3) the 10 CFR 52.103(g) finding.
- SNC FFD Program personnel are covered by the VEGP Units 1 and 2 Operations FFD Program and Shaw's FFD Program personnel are covered by the SNC-approved Shaw FFD Program (elements Subpart A - H, N and O).

- SNC security personnel protecting fuel assemblies are covered by the VEGP Units 1 and 2 Operations FFD Program (elements Subpart A - I, N and O).
- Personnel required to physically report to the Technical Support Center (TSC) or Emergency Operations Facility (EOF) when that requirement is in effect are covered by the VEGP Units 1 and 2 Operations FFD Program.

The operations phase FFD program is consistent with the applicable subparts of 10 CFR Part 26.

2. COLA Part 2, FSAR, Section 13.7.1, will be revised from:

201. Nuclear Energy Institute "Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites," NEI 06-06, Revision 4, February 2009.

To read:

[Reviewer's Note: This reference is standard supplemental information and is included with the STD-SUP-13.7-1 LMA from the fourth paragraph of Section 13.7.]

201. Nuclear Energy Institute, "Fitness for Duty Program Guidance for New Reactor Power Plant Construction Sites," NEI 06-06, Revision 5, August 2009 (ML092430016).

ASSOCIATED ATTACHMENTS/ENCLOSURES:

None.

eRAI Tracking No. 4214

NRC RAI Number 13.06-34:

Under 10 CFR 52.79(a)(44), the Applicant's FSAR must contain a description of the fitness for duty (FFD) program required by 10 CFR Part 26 and its implementation. Describe how the COL Application, FSAR, Part 2, Table 13.4-201, item 15, (Sheet 5 of 7), comports with 10 CFR 26, Sections 26.3 and 26.4, and guidance in NRC's letter to the Nuclear Energy Institute dated December 2, 2009, entitled "Status of U.S. Nuclear Regulatory Commission Review and Endorsement of NEI 06-06, 'Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites'"? Provide site-specific information to clearly and sufficiently describe your FFD program. This information may include, but is not limited to, any deviations or exceptions to the requirements of 10 CFR Part 26 as further described in NEI 06-06.

SNC Response:

The response to RAI 13.06-33 provides the changes to the COLA that will describe the FFD program required by 10 CFR Part 26. The site-specific information is also provided in that response to clarify which program will be used to cover the various classifications of workers that must be covered per 10 CFR Part 26. The response to RAI 13.6-35 provides the information on modifications to FSAR, Table 13.4-201, Item 20 to address the guidance provided in the NRC's December 2, 2009 letter. That RAI response will also include the changes to COLA Part 10, Section 3, Items A, C, and D to align with the changes to FSAR Table 13.4-201.

A future revision of the COLA will reflect the changes discussed in this response.

This response is expected to be applicable to the AP1000 S-COLAs that also receive this question.

Associated VEGP COL Application Revisions:

None.

ASSOCIATED ATTACHMENTS/ENCLOSURES:

None.

eRAI Tracking No. 4216

NRC RAI Number 13.06-35:

Under 10 CFR 52.79(a)(44), the Applicant's FSAR must contain a description of the fitness for duty (FFD) program required by 10 CFR Part 26 and its implementation. Will the proposed license conditions described in the COL Application, Part 10,3, A, D and G comport with FSAR, Part 2, Table 13.4-201, item 15, (Sheet 5 of 7)?

SNC Response:

FSAR Table 13.4-201 will be modified to address the guidance in the NRC's letter to the Nuclear Energy Institute dated December 2, 2009, entitled "Status of U.S. Nuclear Regulatory Commission Review and Endorsement of NEI 06-06, 'Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites.'" The table entries will reflect each of the phases of the FFD programs. Also, COLA Part 10, "Proposed License Conditions (Including ITAAC)," Section 3 will be revised to add those milestones and program descriptions to align the license conditions to each new milestone added to Table 13.4-201.

A future revision of the COLA will reflect the changes discussed in this response.

This response is expected to be applicable to the AP1000 S-COLAs that also receive this question.

Associated VEGP COL Application Revisions:

1. COLA Part 2, FSAR, Table 13.4-201, will be revised from:

Item	Program Title	Program Source (Required by)	FSAR Section	Implementation	
				Milestone	Requirement
20.	Fitness for Duty Program (Construction - Mgt. & Oversight Personnel)	10 CFR Part 26 Subparts A – H, N, and O	13.7	Prior to initiating onsite construction	License Condition
	Fitness for Duty Program (Construction - Workers & First Line Supv.)	10 CFR Part 26 Subpart K	13.7	Prior to initiating onsite construction	License Condition
	Fitness for Duty Program (Operation)	10 CFR Part 26	13.7	Prior to initial fuel load	License Condition

To read:

Item	Program Title	Program Source (required by)	FSAR Section	Implementation	
				Milestone	Requirements
20.	Fitness for Duty (FFD) Program for Construction (workers and first-line supervisors)	10 CFR 26.4(f), Subpart K	13.7	Prior to initiating 10 CFR Part 26 construction activities	License Condition
	FFD Program for Construction (management and oversight personnel)	10 CFR 26.4(e), Subparts A-H, N, and O	13.7	Prior to initiating 10 CFR Part 26 construction activities	License Condition
	FFD Program for Security Personnel	10 CFR 26.4(e)(1), Subparts A-H, N, and O	13.7	Prior to initiating 10 CFR Part 26 construction activities	License Condition
		10 CFR 26.4(a)(5), Subparts A-I, N, and O		Prior to the earlier of: A. Licensee's receipt of SNM in the form of fuel assemblies, or B. Establishment of a protected area, or C. The 10 CFR 52.103(g) finding	License Condition
	FFD Program for FFD Program personnel	10 CFR 26.4(g), Subparts A, B, D-H, N, O, and C per licensee's discretion	13.7	Prior to initiating 10 CFR Part 26 construction activities	License Condition
	FFD Program for persons required to physically report to the Technical Support Center (TSC) or Emergency Operations Facility (EOF)	10 CFR 26.4(c), Subparts A-I, N, and O, except for §§ 26.205-209	13.7	Prior to the conduct of the first full-participation emergency preparedness exercise under 10 CFR Part 50, App. E, Section F.2.a	License Condition
FFD Program for Operation	10 CFR 26.4(a) and (b), Subparts A-I, N, and O, except for individuals listed in § 26.4(b), who are not subject to §§ 26.205-209	13.7	Prior to the earlier of: A. Establishment of a protected area, or B. The 10 CFR 52.103(g) finding	License Condition	

2. COLA Part 10, Proposed License Conditions (Including ITAAC), Section 3, 2nd paragraph will be revised from:

PROPOSED LICENSE CONDITION:

The licensee shall implement the programs or portions of programs identified below on or before the associated milestones identified below.

- A. Construction Initiation – The licensee shall implement each operational program identified below prior to initiating construction of nuclear safety- or security-related structures, systems, or components.
 - A.1 – Fitness for Duty (Construction)
- B. 18 Months Prior to Fuel Load – The license shall implement each operational program identified below at least 18 months prior to scheduled date of initial fuel load.
 - B.1 – Reactor Operator Training
- C. Receipt of Materials – The licensee shall implement each operational program identified below prior to initial receipt of byproduct, source, or special nuclear materials onsite (excluding Exempt Quantities as described in 10 CFR 30.18).
 - C.1 – Radiation Protection (applicable portions)
 - C.2 – Fire Protection Program (applicable portions)
 - C.3 – Non Licensed Plant Staff Training Program (applicable portions)
 - C.4 – Emergency Planning (applicable portions)
 - C.5 – Security Program (applicable portions)
- D. Fuel Receipt – The licensee shall implement each operational program identified below prior to initial receipt of fuel onsite.
 - D.1 – Fire Protection (applicable portions)
 - D.2 – Radiation Protection (applicable portions)
 - D.3 – Security Program (applicable portions)
- E. Construction Testing – The licensee shall implement each operational program identified below prior to initial construction testing.
 - E.1 – Initial Test Program – Construction Testing
- F. Preoperational Testing – The licensee shall implement each operational program identified below prior to initial preoperational testing.
 - F.1 – Initial Test Program – Preoperational Testing
- G. Fuel Loading – The licensee shall implement each operational program identified below prior to initial fuel load.
 - G.1 – Environmental Qualification
 - G.2 – Pre-Service Testing
 - G.3 – Process and Effluent Monitoring and Sampling
 - G.4 – Radiation Protection (applicable portions)
 - G.5 – Motor-Operated Valve Testing
 - G.6 – Fire Protection
 - G.7 – Fitness for Duty (Operations)

- G.8 – Containment Leakage Rate Testing
- G.9 – Physical Security
- G.10 – Cyber Security

To read:

PROPOSED LICENSE CONDITION:

The licensee shall implement the programs or portions of programs identified below on or before the associated milestones identified below.

- A. Construction Initiation – The licensee shall implement each operational program identified below prior to initiating construction of nuclear safety- or security-related structures, systems, or components.
 - A.1 – Fitness for Duty (Construction)
 - A.2 – Fitness for Duty (Security)
 - A.3 – Fitness for Duty (FFD Program Personnel)
- B. 18 Months Prior to Fuel Load – The license shall implement each operational program identified below at least 18 months prior to scheduled date of initial fuel load.
 - B.1 – Reactor Operator Training
- C. Receipt of Materials – The licensee shall implement each operational program identified below prior to initial receipt of byproduct, source, or special nuclear materials onsite (excluding Exempt Quantities as described in 10 CFR 30.18).
 - C.1 – Radiation Protection (applicable portions)
 - C.2 – Fire Protection Program (applicable portions)
 - C.3 – Non Licensed Plant Staff Training Program (applicable portions)
 - C.4 – Emergency Planning (applicable portions)
 - C.5 – Security Program (applicable portions)
 - C.6 – Fitness for Duty (Security)
- D. Fuel Receipt – The licensee shall implement each operational program identified below prior to initial receipt of fuel onsite.
 - D.1 – Fire Protection (applicable portions)
 - D.2 – Radiation Protection (applicable portions)
 - D.3 – Security Program (applicable portions)
 - D.4 – Fitness for Duty (Security)
- E. Construction Testing – The licensee shall implement each operational program identified below prior to initial construction testing.
 - E.1 – Initial Test Program – Construction Testing
- F. Preoperational Testing – The licensee shall implement each operational program identified below prior to initial preoperational testing.
 - F.1 – Initial Test Program – Preoperational Testing

G. Fuel Loading – The licensee shall implement each operational program identified below prior to initial fuel load.

- G.1 – Environmental Qualification
- G.2 – Pre-Service Testing
- G.3 – Process and Effluent Monitoring and Sampling
- G.4 – Radiation Protection (applicable portions)
- G.5 – Motor-Operated Valve Testing
- G.6 – Fire Protection
- G.7 – Fitness for Duty (Operations)
- G.8 – Containment Leakage Rate Testing
- G.9 – Physical Security
- G.10 – Cyber Security

ASSOCIATED ATTACHMENTS/ENCLOSURES:

None.