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June 18, 2012

Docket No.: 52-025

ND-12-1139

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 3
Reply to a Notice of Violation

Ladies and Gentlemen:

By letter dated May 18, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Inspection Report Number 05200025/2012-008 concerning the inspection at Vogtle Electric Generating Plant. The inspectors performed direct inspections of ITAACs 3.3.00.02a.i.b [761], 3.3.00.02a.i.c [762], and 3.3.00.02a.i.d [763] to determine if construction activities associated with these ITAACs were conducted under the conditions of the combined license (COL) and in compliance with the Commission's rules and regulations.

The inspection report identified a Severity Level IV violation of NRC requirements and a Green ITAAC Finding. Enclosure 1 contains the response to Violation 5200025/2012-008-01 and Enclosure 2 contains the response to Violation 5200025/2012-008-02.

This letter contains the following two (2) regulatory commitments:

1. A regulatory commitment to remove the rebar that did not meet the FSAR provisions from the basemat by September 28, 2012.
2. A regulatory commitment to provide either a submittal to the NRC describing how the revised design fully meets the FSAR or a license amendment to the NRC on the revised design for critical sections of the basemat by July 31, 2012.

If you have any questions regarding this letter, please contact Mr. Howard Mahan at (706) 437-6417.

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NED

Mr. Charles R. Pierce states he is the Regulatory Affairs Director 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

Charles R. Pierce

Charles R. Pierce

Sworn to and subscribed before me this 18th 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

CRP/CHM/dmw

Enclosure: 1) Reply to a Notice of Violation 5200025/2012-008-01
2) Reply to a Notice of Violation 5200025/2012-008-02

cc: Southern Nuclear Operating Company

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Southern Nuclear Operating Company

ND-12-1139

Enclosure 1

Reply to a Notice of Violation

05200025/2012-008-01

Reply to a Notice of Violation 05200025/2012-008-01

This enclosure provides Southern Nuclear Operating Company's (SNC's) reply to the Notice of Violation (NOV) issued to SNC by the U.S. Nuclear Regulatory Commission (NRC) in a letter dated May 18, 2012. The NOV was generated from NRC inspections ending on May 7, 2012 that were performed with the purpose of determining whether construction activities associated with Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) 3.3.00.02a.i.b [761], 3.3.00.02a.i.c [726] and 3.3.00.02a.i.d [763] were conducted under the conditions of the combined license (COL) and in compliance with the Commission's rules and regulations.

Violation 05200025/2012-008-01 states:

Paragraph 2.C of the Combined License for Vogtle Electric Generating Plant Unit 3, License No. NPF-91 (Docket No. 52-025), states, "The license is subject to, and the licensees shall comply with, all applicable provisions of the Atomic Energy Act of 1954, as amended (the Act) and the rules, regulations, and orders of the Commission, including the conditions set forth in 10 CFR Chapter I, now or hereafter in effect."

Criterion III, "Design Control," of 10 CFR 50, Appendix B, states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions."

AP1000 Design Control Document (DCD), Tier 2 Section 3.8.4.4.1, states, in part, that the design and analysis procedures for the seismic Category I structures are in accordance with ACI 349 for concrete structures, and the ductility criteria of ACI 349, Chapter 21, are applied in detailing and anchoring of the reinforcing steel.

ACI 349-01, Section 12.2.5, "Excess reinforcement," states, "Reduction in development length shall be permitted where reinforcement in a flexural member is in excess of that required by analysis except where anchorage or development for f_y is specifically required or the reinforcement is designed under provisions of 21.2.1.4.....(A_s required)/(A_s provided)."

ACI 349-01, Section 21.2, "General requirements," subsection 21.2.1.4, states, "All reinforced concrete structural members shall satisfy 21.2 through 21.7 of Chapter 21 in addition to the requirements of Chapters 1 through 17."

DCD, Tier 2 Section 3.8.5.4.4, states, in part, that the two critical sections of the basemat are designed as two-way slabs.

ACI 349-01, Section 13.3, "Slab reinforcement," subsection 13.3.4, states, "Negative moment reinforcement perpendicular to a discontinuous edge shall be bent, hooked, or otherwise anchored, in spandrel beams, columns, or walls, to be developed at face of support according to the provisions of Chapter 12."

Contrary to the above, on or before May 7, 2012, the licensee failed to assure that applicable regulatory requirements and the design basis for systems, structures, and components were correctly translated into specifications, drawings, and instructions associated with the nuclear island (NI) basemat reinforcement. Specifically, the NI basemat bottom flexural reinforcement specified in construction drawings SV3-1000-CR-001-R1 and

SV3-1000-CR-904-R2, and revised in Engineering and Design Coordination Report (E&DCR) Number APP-1000-GEF-007, did not comply with the provisions of ACI 349-01, as evidenced by the following examples:

1. The anchorage of the lower NI basemat reinforcement (layers 1 and 2) into the exterior walls of the auxiliary and shield buildings was detailed relying upon the excess reinforcement provision of ACI 349, Section 12.2.5, to reduce the development length of the bars. ACI 349-01, Section 12.2.5, however, is not applicable for anchoring reinforcement in accordance with the provisions of ACI 349-01, Chapter 21.
2. The anchorage of the NI basemat negative moment reinforcement (layers 1 and 2) into the exterior walls of the auxiliary building in the critical sections was detailed relying upon the excess reinforcement provision of ACI 349-01, Section 12.2.5, to reduce the development length of the bars. As a result, the reinforcement was not developed at the face of the support in a manner consistent with ACI 349-01, Section 13.3.4.

This violation is associated with a Green Significance Determination Process Finding

Reason(s) for Violation 05200025/2012-008-01:

SNC accepts the Violation and offers the following discussion regarding the circumstances which resulted in the Violation:

- The provisions that were established in the DCD (and subsequently the FSAR) relative to the application of ACI 349-01 were not properly interpreted for the NI basemat reinforcement to assure compliance with these requirements.
- Activities that were determined by the Consortium to not impact the FSAR or DCD did not receive the same level of owner oversight as changes that did impact the FSAR or DCD. Thus, SNC engineering was not cognizant of this change.

Immediate Corrective Actions Taken:

- Work associated with the installation of Unit 3 NI rebar was placed on hold when SNC understood NRC's concerns.

Corrective Actions to be Taken:

- The design for the basemat is being revised to meet the requirements of the FSAR, DCD and ACI 349-01.
- The rebar not in conformance with the FSAR will be removed from installation in order to prepare the basemat for a revised design.
- Relevant construction drawings will be revised to reflect the new design.

Corrective Actions Taken to Prevent Further Violations:

- A new implementing procedure for conducting Licensing Impact Reviews has been issued by WEC. This procedure enhances the documentation of the License Basis Review thus providing confidence that the basis of the change is understood.
- Consortium initiated training for the Design, Engineering and Licensing staffs to convey the problem identified with the NI rebar design and to convey the importance of complying with the requirements of the FSAR.
- SNC procedures for Construction Engineering have been revised to reflect SNC's review of changes requested by E&DCRs. Thus a more detailed SNC review of construction drawings relative to conformance to the licensing basis is being performed.

Date When Full Compliance Will Be Achieved:

Full compliance with the FSAR for the basemat rebar design will be achieved by September 28, 2012 with the removal of the rebar that did not meet the FSAR provisions from the basemat.

Southern Nuclear Operating Company

ND-12-1139

Enclosure 2

Reply to a Notice of Violation

05200025/2012-008-02

Reply to a Notice of Violation 05200025/2012-008-02

This enclosure provides Southern Nuclear Operating Company's (SNC's) reply to the Notice of Violation (NOV) issued to SNC by the U.S. Nuclear Regulatory Commission (NRC) in a letter dated May 18, 2012. The NOV was generated from NRC inspections ending on May 7, 2012 that were performed with the purpose of determining whether construction activities associated with Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) 3.3.00.02a.i.b [761], 3.3.00.02a.i.c [762] and 3.3.00.02a.i.d [763] were conducted under the conditions of the combined license (COL) and in compliance with the Commission's rules and regulations.

Violation 05200025/2012-008-02 states:

Combined License (COL) No. NPF-91, dated February 10, 2012, paragraph 1.A, states, in part, that "The application for a combined license (COL) for Vogtle Electric Generating Plant...incorporates by reference Appendix D of 10 CFR Part 52."

10 CFR 52, Appendix D, Section VIII B.6.a, states, "An applicant who references this appendix may not depart from Tier 2* information, which is designated with italicized text or brackets and an asterisk in the generic DCD, without NRC approval. The departure will not be considered a resolved issue, within the meaning of Section VI of this appendix and 10 CFR 52.63(a) (5)." AP1000 Design Control Document (DCD), Tier 2 Section 3.8.4.4.1, states, in part, in Tier 2* information, that "The design and analysis procedures for the seismic Category I structures... are in accordance with ACI 349 for concrete structures,...and the ductility criteria of ACI 349, Chapter 21, are applied in detailing and anchoring of the reinforcing steel."

ACI 349-01, Section 21.2, "General requirements," subsection 21.2.1.4, states, "All reinforced concrete structural members shall satisfy 21.2 through 21.7 of Chapter 21 in addition to the requirements of Chapters 1 through 17."

DCD, Tier 2 Section 3.8.5.4.4, states, in the Tier 2* design summary regarding the basemat critical sections, that these portions of the basemat are designed as a two-way slab. ACI 349-01, Section 13.3, "Slab reinforcement," subsection 13.3.4, states, "Negative moment reinforcement perpendicular to a discontinuous edge shall be bent, hooked, or otherwise anchored, in spandrel beams, columns, or walls, to be developed at face of support according to the provisions of Chapter 12."

DCD, Tier 2* Figure 3H.5-3, depicts the typical reinforcement details for layers 1, 2, 4, and 5 of the NI basemat/auxiliary building wall connection along column line 1 as having hooks at the termination in the wall.

Contrary to the above, on or before March 23, 2012, the licensee departed from Tier 2* information in the referenced certified design without NRC approval. Specifically, VEGP departed from Tier 2* information by:

1. Revising the connection of the NI basemat reinforcement with the exterior walls of the auxiliary and shield building such that the development length used to anchor layers 1 and 2 of the NI basemat reinforcement into the perimeter walls of the auxiliary and shield building did not comply with ACI 349-01, Chapter 21.

2. Revising the connection of the NI basemat negative moment reinforcement (layers 1 and 2) with the exterior walls of the auxiliary building in the critical sections such that they did not comply with the requirements for two-way slabs specified in ACI 349-01, Chapter 13.
3. By deleting the hooks, the connection of the NI basemat reinforcement (layers 1, 2, 4, and 5) with the exterior wall of the auxiliary building along column line (CL) 1 was not consistent with DCD, Tier 2* Figure 3H.5-3.

This is a Severity Level (SL) IV violation (Enforcement Policy, Section 6)

Reason(s) for Violation 05200025/2012-008-02:

SNC accepts the Violation and offers the following discussion regarding the circumstances which resulted in the Violation:

- Compliance with ACI 349-01 and FSAR Figure 3H.5-3 are Tier 2* requirements. However, mis-interpretation of FSAR wording led to misclassification of Tier 2* material. With this incorrect interpretation, the Tier 2* requirement for complying with the FSAR was not maintained; therefore the need for NRC approval of the change was not recognized.
- If the design detail did not impact the FSAR, procedures allowed the cognizant engineer to approve design changes without certain documentation. Westinghouse Electric Company (WEC) did not recognize the potential impact to the FSAR and changed the design drawing to remove the layer 1 and 2 rebar hooks without a written justification and evaluation.
- Activities that were determined by the Consortium to not impact the FSAR did not receive the same level of owner oversight as changes that did impact the FSAR. Thus, SNC engineering was not cognizant of this change.

Immediate Corrective Actions Taken:

- Work associated with the installation of Unit 3 NI rebar was placed on hold when SNC understood NRC's concerns.
- Consortium initiated a stand down of the engineering and licensing staff onsite and at corporate offices for WEC and Shaw to address the importance of assuring that the licensing basis is fully met and to provide interim actions for that assurance.
- Work packages for the first 90 days of Nuclear Island (NI) basemat construction were reviewed to determine that the licensing basis was correctly reflected in the work packages. Corrective actions are being taken on identified deficiencies.

Corrective Actions to be Taken:

- SNC will provide either a submittal to the NRC describing how the revised design fully meets the FSAR or a license amendment to the NRC on the revised design for critical sections of the basemat.

Corrective Actions Taken To Prevent Further Violations:

Causal Analyses evaluations were immediately initiated by WEC and SNC. These evaluations are still ongoing. However, the following actions have been taken to enhance the ability to recognize the licensing basis changes thus providing assurance that items requiring NRC approval prior to change are identified:

- A new implementing procedure for conducting Licensing Impact Reviews has been issued by WEC. This procedure enhances the documentation of the License Basis Review thus providing confidence that the basis of the change is understood.
- Consortium initiated training for the Design, Engineering and Licensing staffs to convey the problem identified with the NI rebar design and to convey the importance of complying with the requirements of the FSAR.
- SNC procedures for Construction Engineering have been revised to reflect SNC's review of changes requested by E&DCRs. Thus a more detailed SNC review of construction drawings relative to conformance to the licensing basis is being performed.
- Further reviews are currently underway to assure that site construction drawings will conform to the licensing basis.

Date When Full Compliance Will Be Achieved:

Full compliance with the FSAR Tier 2* information and the basemat rebar design will be achieved July 31, 2012 with either a submittal to the NRC describing how the revised design fully meets the FSAR or with a license amendment submitted to the NRC on the revised design for critical sections of the basemat.