



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

April 22, 2014

Mr. B. L. Ivey  
Vice President, Regulatory Affairs  
Southern Nuclear Operating Company  
P.O. Box 1295  
Bin B022  
Birmingham, AL 35201

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4 – NRC  
INTEGRATED INSPECTION REPORTS 05200025/2014-002, and  
05200026/2014-002

Dear Mr. Ivey:

On March 31, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant (VEGP) Units 3 and 4. The enclosed inspection report documents the inspection results, which the inspectors discussed on April 3, 2014, with Mr. Mark Rauckhorst, Vogtle 3 & 4 Construction Vice President, and other members of your staff.

The inspection examined a sample of construction activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

One NRC-identified finding of very low safety significance (Green) was identified during this inspection. This finding was determined to involve violations of NRC requirements. However, because of their very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as non-cited violation (NCV) in accordance with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector office at the VEGP Units 3 & 4.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact us.

Sincerely,

**/RA/**

Michael Ernstes, Branch Chief  
Construction Projects Branch 4  
Division of Construction Projects

Docket Nos.: 05200025, 05200026

License Nos.: NPF-91, NPF-92

Enclosure: Inspection Report 05200025/2014-002  
And 05200026/2014-002  
w/attachment: Supplemental Information

cc w/encl: (See pages 2-3)

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cc w/encl: (See pages 2-3)

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Letter to B. L. Ivey from Michael E. Ernstes dated April 22, 2014

SUBJECT: SOUTHERN NUCLEAR OPERATING COMPANY, INC., VOGTLE ELETRIC  
GENERATING PLANT UNITS 3 AND 4 – NRC INTEGRATED INSPECTION  
REPORTS 05200025/2014-002, 05200026/2014-002

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**U.S. NUCLEAR REGULATORY COMMISSION  
Region II**

Docket Numbers: 5200025  
5200026

License Numbers: NPF-91  
NPF-92

Report Numbers: 05200025/2014002  
05200026/2014002

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant Unit 3  
Vogtle Electric Generating Plant Unit 4

Location: Waynesboro, GA

Inspection Dates: January 1, 2014 through March 31, 2014

Inspectors: C. Abbott, Resident Inspector, DCP  
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Approved by: Michael Ernstes, Chief  
Construction Projects Branch 4  
Division of Construction Projects

Enclosure

## **SUMMARY OF FINDINGS**

Inspection Report (IR) 05200025/2014-002, 05200026/2014-002; 01/01/2014 through 03/31/2014; Vogtle Unit 3, Vogtle Unit 4, routine integrated inspection report.

This report covers a three-month period of inspection by resident inspectors and announced Inspections, Tests, Analysis, and Inspection Criteria (ITAAC) inspections by both regional and resident inspectors. The Nuclear Regulatory Commission's (NRC's) program for overseeing the construction of commercial nuclear power reactors is described in Inspection Manual Chapter (IMC) 2506, "Construction Reactor Oversight Process General Guidance and Basis Document."

### **A. NRC-Identified and Self Revealed Findings**

#### **Cornerstone: Design/Engineering**

- Green. The inspectors identified an ITAAC finding of very low safety significance (Green) and associate non-cited violation (NCV) of 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control" for Southern Nuclear Company's (SNC) failure, through their contractor Westinghouse, to correctly translate design basis into specifications, drawings, procedures, and instructions. The licensee entered this issue into their corrective action program as CR 790174.

The finding was associated with the Design/Engineering cornerstone. The inspectors determined the performance deficiency was more than minor because it represented a substantive non-conservative error in a design document that defines the technical requirements for the reinforced concrete slabs in the auxiliary building. The inspectors evaluated the finding using the construction significance determination process and determined the finding was of very low safety significance (Green) because installation of the precast panels had not begun. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 3 ITAAC 763. The acceptance criteria of this ITAAC requires that a reconciliation report, concluding the "as-built" construction conforms to the approved design, is completed for the areas associated with the ITAAC. This finding is associated with deviations from design requirements that would not have been reconciled by the licensee as required by the ITAAC. The inspectors screened the finding for a possible construction cross-cutting aspect (CCA) and determined that it was not related to any of the CCA discussed in IMC 0613.

### **B. Licensee-Identified Violations**

No findings were identified.

## REPORT DETAILS

### Summary of Plant Construction Status

During this inspection period the licensee placed the CA20 structural modules in the Unit 3 nuclear island (NI). The licensee also continued the construction of the Unit 3 auxiliary building walls. For Unit 4, the containment vessel bottom head support structure (CR10) was landed in the NI.

#### 1. CONSTRUCTION REACTOR SAFETY

##### **Cornerstones: Design/Engineering, Procurement/Fabrication, Construction/Installation, Inspection/Testing**

1A01 (Unit 3) ITAAC 91 / Family: 06F

##### a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 91 (2.2.01.02a):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The components identified in Table 2.2.1-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements.	Inspection will be conducted of the as-built components as documented in the ASME design reports.	The ASME Code Section III design reports exist for the as-built components identified in Table 2.2.1-1 as ASME Code Section III.

The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.F-02.01 - Design Document Review
- 65001.F-02.02 - Fabrication Records Review
- 65001.11-02.06 - PWR Containment Construction
- 65001.11-02.07 - Offsite Fabrication of Assemblies

The inspectors reviewed documents associated with penetration P-41 and middle ring plates C23 and D19 to verify that materials and components of the containment vessel met the applicable requirements of the American Society of Mechanical Engineers (ASME) Section III code. Specifically the inspectors reviewed the receipt inspection report, ASME N-2 data sheet, and all CMTRs associated with spare penetration 41 assembly to verify that the receipt, fabrication, and material properties met the applicable ASME Code and quality requirements. For plates C23 and D19 the inspectors reviewed the receipt inspection reports and CMTRs to verify that the plates met the applicable ASME Code and quality requirements.

b. Findings

No findings were identified.

1A02 (Unit 3) ITAAC No. 93 / Family: 06Ba. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 93 (2.2.01.03a):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
3.a) Pressure boundary welds in components identified in Table 2.2.1-1 as ASME Code Section III meet ASME Code Section III requirements.	Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.	A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.06-02.01 - General Installation
- 65001.06-02.02 - Component Welding
- 65001.B-02.03 - Welder Qualification
- 65001.11-02.03 - Installation and Welding
- 65001.11-02.05 - Nondestructive Examination
- 65001.F-02.02 - Fabrication Records Review
- 65001.F-02.03 - Observation of Fabrication Activities

The inspectors performed a record review inspection of the three pressure boundary welds comprising the spare penetration P-41 assembly (Weld numbers WB3-P41-N, WB3-P41-F, and WB3-A5-A) and three welds comprising the middle ring of containment (D3-D24, C29-C30, & E9-E10) to verify they met the requirements of the ASME Section III Code. Specifically the inspectors reviewed:

- weld filler metal Certified Material Test Reports (CMTRs) to verify that the filler metal met the code quality, chemical and strength requirements;
- welder performance qualification records to verify that the welders performed code specified qualification tests, that they were fully documented, and that they were qualified to perform the weld;
- welding procedures to verify they met and implemented the requirements of the ASME Code; and
- radiographic (i.e. X-ray) film, and the magnetic particle and radiographic inspection reports to verify that the welds were examined and accepted as required by the ASME Code.

The inspectors also performed a direct visual examination of the six welds to verify that the weld profiles, locations, sizes, and quality were adequate.

b. Findings

No findings were identified.

1A03 (Unit 3) ITAAC No. 96 / Family: 06Fa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 96 (2.2.01.04a.ii):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
4.a) The components identified in Table 2.2.1-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure.	ii) Impact testing will be performed on the containment and pressure-retaining penetration materials in accordance with the ASME Code Section III, Subsection NE, to confirm the fracture toughness of the materials.	ii) A report exists and concludes that the containment and pressure-retaining penetration materials conform with fracture toughness requirements of the ASME Code Section III.

The inspectors used the following NRC inspection procedure/section to perform this inspection:

- 65001.F-02.02 - Fabrication Records Review

The inspectors reviewed CMTRs associated with pressure boundary materials of the middle ring of the containment vessel to verify that the impact toughness was in accordance with the requirements of the ASME Section III Code. Specifically the inspectors reviewed CMTRs for plates C23 and D19, and CMTRs for welding filler metal used to weld plates D23-D24, C29-C30, and E9-E10.

b. Findings

No findings were identified.

## 1A04 (Unit 3) ITAAC No. 760 / Family: 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 760 (3.3.00.02a.i.a):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	i) An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	i.a) A report exists which reconciles deviations during construction and concludes that the as-built containment internal structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.05 - Steel Structures
- 65001.F-02.02 - Fabrication Records Review
- 65001.B-02.05 - Inspection

The inspectors observed ultrasonic testing (UT) and magnetic particle testing (MT) for reactor cavity module (CA04) welds to determine whether the nondestructive testing (NDE) was performed in accordance with drawings, procedures, work package SV3-CA04-S5W-CV1546, and AWS D1.1, Structural Welding Code, 2000 edition. Specifically, the inspectors observed NDE on CA04 welds SV3-CA04-S5K-CV2033-30-0006, -0016, -0017, and -0007. The inspectors reviewed NDE reports V-14-MT-302-101 and V-14-UT-310-056 to determine whether the reports accurately captured the inspection results and were in accordance with procedures and AWS D1.1, 2000 edition.

b. Findings

No findings were identified.

## 1A05 (Unit 3) ITAAC No. 760 / Family: 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 760 (3.3.00.02a.i.a). The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.05 - Steel Structures
- 65001.F- Inspection of the ITAAC-Related Design and Fabrication Requirements

The CA04 structure forms an octagonal cavity for the reactor vessel and is created by assembling 4 wall panels. The inspectors observed a non-destructive examination of the reworked vertical seam weld CV2066-1-RW2 for submodule CA04. This weld seam is on the south reactor vessel cavity wall E-W wall parallel with column line 7 from elevation 83' 0" to 98' 0". Specifically, the inspectors observed MISTRAS personnel perform magnetic particle and ultrasonic inspections of the weld. The inspectors reviewed weld records for welds CV2066-1-BDU-1-RW2 and CV2066-1-RW2 to determine whether previously identified unsatisfactory conditions from weld records for welds CV2066-1-BDU-1 and CV2066-1-BDU-1-RW1 were corrected.

b. Findings

No findings were identified.

1A06 (Unit 3) ITAAC No. 761 / Family: 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 761 (3.3.00.02a.i.b):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	i) An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	i.b) A report exists which reconciles deviations during construction and concludes that the as-built shield building structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.03 - Independent Assessment/Measurement Inspection
- 65001.A.02.04 - Review As-built Deviations/Nonconformance
- 65001.F-02.02 - Fabrication Records Review

- 65001.F-02.03 - Observation of Fabrication Activities

For the shield building walls from elevation 66'-6" to 78'-6 of the Vogtle Unit 3, the inspectors applied the guidance in Inspection Procedure (IP) 65001.01, "Inspection of ITAAC-Related Foundation and Buildings," IP 65001.02, "Inspection of ITAAC Related Installation of Structural Concrete," IP 65001.A, "Inspection of the As-Built Attributes for self-consolidating concrete (SCCs) Associated with ITAAC," and IP 65001.F, "Inspection of ITAAC-Related Design and Fabrication Requirements." As part of the inspection activities, inspectors observed on-going concrete reinforcing steel placement and reviewed documents, applicable design drawings and specifications to verify construction activities were being conducted in accordance with design documents and applicable processes and procedures. Specifically, the inspectors verified that:

- contractors performing safety-related work had approved implementing procedures that described administrative and procedural controls, approved work processes, and inspection requirements;
- procedures clearly prescribed acceptable methods of quality control inspection which ensured that the as-built condition met specified design requirements, drawings and material specifications;
- procedures included appropriate quantitative and/or qualitative acceptance criteria for determining that the prescribed activities had been accomplished satisfactorily;
- fabrication/construction records for reinforcing steel and embedments were adequate to furnish evidence of activities affecting quality and that SSCs conform to applicable codes, standards, regulations, and quality and technical requirements;
- reinforcing steel and embedments were located properly in the structure and forms were secured and free of concrete or excessive rust, and had proper clearances; and
- reinforcing steel was installed in accordance with the latest approved-for-construction drawings, manufacturer's instructions, and procedures.

Inspectors also verified that:

- records related to inspected activities were accurate and that the recorded information met project requirements, Design Control Document (DCD) specifications, and ITAAC;
- records were approved, and correctly stored and maintained in such a manner as to demonstrate conformance with design and procedure requirements;
- nonconforming items were clearly identified, segregated, and dispositioned;
- nonconformance reports and other design deviation documents associated with SSCs that were dispositioned as "repair" or "use-as-is" were in accordance with applicable codes, standards, regulations, and quality and technical requirements and adequately evaluated by the responsible design organizations; and
- the licensee identified problems at an appropriate threshold and entered them into the corrective action program.

b. Findings

No findings were identified.

1A07 (Unit 3) ITAAC No. 761 / Family: 01Fa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 761. The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.A - As-Built Attributes for SSCs associated with ITAAC
- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted an inspection of concrete placement within the shield building area, beneath the containment vessel bottom head, reviewed applicable design drawings and specifications, and interviewed licensee personnel to verify construction activities were being conducted in accordance with the design documents and applicable procedures. Specifically, the inspectors verified that:

- structural concrete design and construction was accomplished under controlled conditions and in accordance with applicable procedures, specifications, drawings, and approved procedures using qualified personnel;
- key building critical dimensions and materials satisfied design specifications, requirements, and relevant ITAAC;
- structural concrete work and related licensee quality control activities were being performed in accordance with design specifications and approved procedures;
- deviations from the design due to as-built conditions were identified and documented appropriately; and
- records reflected that completed work met design specifications and acceptance criteria.

The inspectors performed observations and independent measurements on sample areas of the basemat concrete for the Unit 3 nuclear island structures. Specifically, the inspectors observed placement of SCC within the shield building area of the nuclear island from elevation 66'-6" to elevation 78'-6" to verify that:

- the time limit between mixing and placement and temperature was not exceeded;
- the pre placement inspection performed by Quality Control (QC) was completed before any concrete is placed;
- batch tickets were reviewed for verification of proper mix, transport time, placement location, and amount of temper water being added at the truck delivery point;
- placement drop distances did not exceed specification requirements;
- inspection during placement is performed as required;
- concrete temperature, slump flow, air content, unit weight and concrete strength test specimens were being sampled at the proper location and frequency as required in the design specifications and performed by qualified individuals.

Collection and testing techniques conformed to the procedures specified in the American Society for Testing and Materials (ASTM) standards, or equivalent;

- concrete subgrade, form work, and reinforcing steel were free of foreign materials and excess rust;
- concrete was placed by properly trained individuals using the proper equipment;
- proper finishing, curing, and temperature monitoring techniques and equipment were utilized; and
- all issues and non-conformances identified associated with this placement were entered into the corrective action program.

In addition, the inspectors performed an inspection of Vogtle's site batch plant and reviewed various documents within the work package and design documents for the concrete to verify that:

- the batch plant was qualified in accordance with specifications, codes, drawings, and procedures. The batch plant certifications were issued by the National Ready Mix Concrete Association (NRMCA) and facility reviewed by a Professional Engineer;
- calibration records associated with the water and cement scales were within tolerance and in accordance with batch plant operating procedures;
- the batch plant's control room working conditions and concrete operator's qualifications were in accordance with batch plant's operating procedures;
- concrete constituents and concrete mix were free of deleterious material. The cement was kept in a moisture free environment and the aggregate was not subject to contamination; and;
- pre-placement planning and training was completed. Procedures were in place and available to address unexpected events. The contractor had approved implementing procedures, which addressed the requirements of applicable codes, prescribed adequate methods of QC inspection, and specified appropriate quantitative and qualitative acceptance criteria.

b. Findings

No findings were identified.

## 1A08 (Unit 3) ITAAC No. 762 /Family: 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 762 (3.3.00.02a.i.c):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	i) An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	i.c) A report exists which reconciles deviations during construction and concludes that the as-built structures in the non-radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.01-02.06 - Records
- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.03 - Independent Assessment/Measurement Inspection
- 65001.A.02.04 - Review As-built Deviations/Nonconformance
- 65001.F-02.02 - Fabrication Records Review
- 65001.F-02.03 - Observation of Fabrication Activities

The inspectors performed a field inspection of construction activities associated with ITAAC 762 for the Column Lines M, L and K walls from elevation 66'-6" to 82'-6" of the Vogtle Unit 3 site. The inspectors applied the guidance in IP 65001.01, "Inspection of ITAAC-Related Foundation and Buildings," IP 65001.02, "Inspection of ITAAC Related Installation of Structural Concrete," IP 65001.A, "Inspection of the As-Built Attributes for SSCs Associated with ITAAC," and IP 65001.F, "Inspection of ITAAC-Related Design and Fabrication Requirements." As part of the inspection activities, inspectors observed on-going concrete reinforcing steel placement and reviewed documents, applicable design drawings and specifications to verify construction activities were being conducted in accordance with design documents and applicable processes and procedures. Specifically, the inspectors verified that:

- contractors performing safety-related work had approved implementing procedures that described administrative and procedural controls, approved work processes, and inspection requirements;
- procedures clearly prescribed acceptable methods of quality control inspection which ensured that the as-built condition met specified design requirements, drawings and material specifications;
- procedures included appropriate quantitative and/or qualitative acceptance criteria for determining that the prescribed activities had been accomplished satisfactorily;
- fabrication/construction records for reinforcing steel and embedments were adequate to furnish evidence of activities affecting quality and that SSCs conform to applicable codes, standards, regulations, and quality and technical requirements;
- reinforcing steel and embedments were located properly in the structure and forms were secured and free of concrete or excessive rust, and had proper clearances; and
- reinforcing steel was installed in accordance with the latest approved-for-construction drawings, manufacturer's instructions, and procedures.

Inspectors also verified that:

- records related to inspected activities were accurate and that the recorded information met project requirements, DCD specifications, and ITAAC;
- records were approved, and correctly stored and maintained in such a manner as to demonstrate conformance with design and procedure requirements;
- nonconforming items were clearly identified, segregated, and dispositioned;
- nonconformance reports and other design deviation documents associated with SSCs that were dispositioned as "repair" or "use-as-is" were in accordance with applicable codes, standards, regulations, and quality and technical requirements and adequately evaluated by the responsible design organizations; and
- the licensee identified problems at an appropriate threshold and entered them into the corrective action program.

b. Findings

No findings were identified.

## 1A09 (Unit 3) ITAAC No. 763 / Family: 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.d (763):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	i) An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	i.d) A report exists which reconciles deviations during construction and concludes that the as-built structures in the radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors used the following NRC inspection procedure/section to perform this inspection:

- 65001.02-02.01 - Inspection of Concrete Placement

The inspectors observed the size, spacing, and configuration of the reinforcement in precast panels, 1223-CP-S03, 1226-CP-S03 and 1226-CP-S04, being fabricated for use as elements of the reinforced concrete floors at 82'-6" in the radiologically controlled area of the Unit 3 auxiliary building. The inspectors reviewed work package SV3-1220-CPW-CV0950, "Unit 3 Auxiliary Building Precast Concrete Floors EL 82'-6"," to verify that the detailed design was in conformance with regulatory requirements. The inspectors also verified that the reinforcement was adequately secured to prevent movement during concrete placement and concrete cover was within tolerances.

b. Findings

Inadequate anchorage of shear stirrups in precast elements of reinforced concrete slabs.

Introduction.

The inspectors identified an ITAAC finding of very low safety significance (Green) and associate non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for SNC's failure, through their contractor Westinghouse, to correctly translate regulatory requirements into specifications, drawings, procedures, and instructions.

### Description

During an inspection of precast concrete panels being fabricated for use as elements of the reinforced concrete slabs in the elevated floors of the Unit 3 auxiliary building, the inspectors observed that the design did not conform to the requirements of ACI 349-01, a Tier 2\* licensing commitment for Seismic Category I structures. Specifically, longitudinal bars were missing from some of the bends in the U-stirrups that had been installed for resistance and transfer of vertical and horizontal shear forces, respectively. The presence of a longitudinal bar in the bends of the stirrups is required by Section 12.13.3 of ACI 349-01 to provide adequate anchorage of the stirrups.

The inspectors reviewed Engineering and Design Coordination Report (E&DCR) SV0-CE01-GEF-000032. This E&DCR added U-stirrups in the ends of the precast panels. These stirrups were installed adjacent to and offset from the existing stirrups, essentially creating a multiple U-stirrup. The offset stirrups were added to address potential conflicts with horizontal reinforcement extending from the supporting walls into the cast-in-place portions of the composite slabs: if the vertical legs of one of the stirrups conflicted with the horizontal reinforcement extending out of the wall, the legs of that stirrup would be cut-off at the top surface of the precast panel and the rest of the stirrup “abandoned” in place; in this case, the remaining stirrup would satisfy design requirements. However, the E&DCR only required that a longitudinal bar be placed in the interior bends of the overlapping stirrups, not each bend as required by Section 12.13.3 of ACI 349-01. As a result, the anchorage of the stirrups was not in conformance with Section 12.13.3 of ACI 349-01. The inspectors determined that two precast panels of indeterminate quality were fabricated for use in the Unit 3 auxiliary building floors at elevation 82’ 6”, however, these panels had not been installed in the nuclear island.

### Analysis

The licensee’s failure to assure that applicable regulatory requirements were correctly translated into design specifications, drawings, procedures, and instructions as required by Criterion III of 10 CFR 50, Appendix B, was a performance deficiency. The inspectors determined the performance deficiency was more than minor because it represented a substantive non-conservative error in a design document that defines the technical requirements for the reinforced concrete slabs in the auxiliary building.

The finding was associated with the Design/Engineering cornerstone. The inspectors evaluated the finding using the construction significance determination process (SDP) and determined the finding was of very low safety significance (Green) because installation of the precast panels had not begun.

The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 3 ITAAC 763. The acceptance criteria of this ITAAC requires that a reconciliation report, concluding the “as-built” construction conforms to the approved design is completed for the areas associated with the ITAAC. This finding is associated with deviations from design requirements that would not have been reconciled by the licensee as required by the ITAAC, because the E&DCR that was approved and released for use contained deviations.

The inspectors screened the finding for a possible construction cross-cutting aspect in accordance with Appendix F, "Construction Cross-Cutting Components and Aspects" of IMC 0613, "Power Reactor Construction Inspection Reports." The inspectors determined that this finding was not related to any of the cross-cutting aspects discussed in IMC 0613.

### Enforcement

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

UFSAR Section 3.8.4.4.1 requires, in part, that the design and analysis procedures for Seismic Category I structures are in accordance with ACI 349-01 for concrete structures.

UFSAR Section 3H.5.3 states, in part, that the reinforced concrete slabs in the auxiliary building are of composite construction, consisting of 16-24 inches of concrete placed on top of an 8 inch thick precast panel. Shear stirrups are provided to connect the precast panels to the cast-in-place concrete.

Sections 17.4.2 and 17.6.3 of ACI 349-01 require that reinforcement provided to resist vertical and horizontal shear, respectively, in composite construction be fully anchored to achieve the yield strength of the bars in accordance with Section 12.13 of ACI 349-01.

Section 12.13.3 of ACI 349-01, requires that between anchored ends, each bend in the continuous portion of a simple U-stirrup or multiple U-stirrup shall enclose a longitudinal bar.

Contrary to the above, on or before March 20, 2014, the licensee failed to correctly translate the design basis into design specifications, drawings, procedures, and instructions as required by 10 CFR Appendix B, Criterion III. Specifically, the design change documented and released for use in E&DCR SV0-CE01-GEF-000032, did not comply with Section 12.13.3 of ACI 349-01, as required by the UFSAR. This E&DCR added stirrups in the reinforced concrete composite slabs of the auxiliary building. These stirrups were installed adjacent to and offset from the existing stirrups at the ends of the precast panels to address potential conflicts with horizontal reinforcement extending from the supporting walls into the cast-in-place portions of the composite slabs. However, the E&DCR only required that a longitudinal bar be placed in the interior bends of the overlapping stirrups, not each bend as required by Section 12.13.3 of ACI 349-01. As a result, the anchorage of the stirrups was not in conformance with Section 12.13.3 of ACI 349-01 and two precast panels of indeterminate quality were fabricated for use in the Unit 3 auxiliary building floors at elevation 82' 6".

This violation is associated with a Green SDP finding and is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy (NCV 05200025/2014002-01, Failure to translate design basis for the Auxiliary Building precast concrete panels).

The licensee entered this issue into their corrective action program as CR#790174. Immediate corrective actions included voiding E&DCR SV0-CE01-GEF-000032.

1A10 (Unit 3) ITAAC No. 763 / Family: 01Fa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 763. The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.01-02.05 - Steel Structures
- 65001.01-02.06 - Records
- 65001.A-02.01 - Observation of in-Process Installation Activities
- 65001.B-02.04 - Production Controls
- 65001.B-02.06 – Records
- 65001.F-02.02 - Fabrication Records Review

The inspectors reviewed welding and nondestructive testing (NDE) records associated with duplex stainless steel welds for CA20 submodules on column line J-2 wall from column line 2 to 4 from elevation 66' 6" to 135' 3" to determine whether the welding and NDE met procedures, drawings, and AWS D1.6, Stainless Steel Structural Welding Code, 1999 edition, requirements. The inspectors reviewed records for submodule CA20\_13 and CA20\_14 faceplate seam welds SV3-CA20-S4K-CV0381-5L, -5R-RW-1, -6L-RW-1, and 6R. The inspectors also reviewed records for submodule CA20\_20 and CA20\_21 faceplate seam welds SV3-CA20-S4W-CV1406-6L and SV3-CA20-S4W-CV1406-6R-RW-1. The inspectors reviewed weld travelers in work packages SV3-CA20-S4W-CV310 and SV3-CA20-S4W-CV1406 associated with these welds to determine whether the weld traveler was followed and hold points were acknowledged. The inspectors reviewed liquid penetrant examination and ultrasonic examination records to determine whether the NDE records met the procedure and AWS D1.6, 1999 edition requirements. The inspectors reviewed weld metal certificates of compliance to determine whether the weld metal used in the welds listed above met AWS D1.6, 1999 requirements. The inspectors directly examined the welds to determine whether the welds surface appearance, size, location, and profile were in accordance with drawings and AWS D1.6, 1999 edition.

The inspectors performed a visual inspection of the wall plates and welds on column line L-2 wall from column line 2 to 4 from Elevation 66' 6" to 135' 3" for CA20 submodules. The inspectors observed GTAW welding of the root pass on vertical seam welds CV1886-6L and CV1886-6R which join submodules CA20\_27 and CA20\_28. Work was conducted in accordance with weld record SV3-CA20-S4W-CV0437 which coordinates and sequences all operations, references procedures and instructions, establishes hold points, and provides for production welding and inspection sign offs. The inspectors observed associated welding activities to determine whether welding was performed in accordance with welding specifications WPS5-10H.10HT70, APP-VW20-Z0-023 and GWS-5. The inspectors reviewed welding procedure specification WPS5-10H.10HT70 to determine if it was developed in accordance with Procedure Qualification Record D-2010-30. The inspectors observed welding environmental conditions to determine whether the weld joint was sufficiently protected from inclement conditions. The inspectors verified the shielding gas was used during the welding process and that the shielding gas flow rate was monitored by appropriate measuring devices. The

inspectors observed the measurement of amperage and voltage by calibrated equipment near the welding arc to determine whether actual welding variables met procedural requirements.

The inspectors performed a visual inspection of the wall plates and welds on column line K-2 wall from column line 2 to 4 from elevation 66' 6" to 135' 3" for CA20 submodules. Specifically, the inspectors observed the first 8 feet of duplex stainless steel wall plates and welds beginning at elevation 92' 6". The inspectors examined the welds of the following seams to determine whether the welds were free of cracks, thorough fusion existed between the weld and base metals, and the weld profiles were in accordance with Section 5.11 of AWS D1.1:

- CA20\_18 to CA20\_19
- CA20\_19 to CA20\_20
- CA20\_20 to CA20\_21
- CA20\_21 to CA20\_22

The inspectors also observed the condition of the stainless steel and contamination controls to determine whether adequate measures had been taken to prevent deleterious effects to the material.

b. Findings

No findings were identified.

1A11 (Unit 3) ITAAC No. 763 / Family: 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 763. The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.01-02.06 - Records
- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.03 - Independent Assessment/Measurement Inspection
- 65001.A.02.04 - Review As-built Deviations/Nonconformance
- 65001.B-02.01 - Program and Procedures Review
- 65001.B-02.04 - Production Controls
- 65001.B-02.05 - Inspection
- 65001.B-02.06 – Records
- 65001.F-02.02 - Fabrication Records Review
- 65001.F-02.03 - Observation of Fabrication Activities

Specifically, the inspectors observed and reviewed the installation of reinforcing steel for the Delay Bed/Guard Bed Compartment Walls, from elevation 66'-6" to 82'-6". The

inspectors also observed and reviewed module assembly of CA-20 along Column Line (CL) J-2, from CL 3 to 4, elevation (EL.) 117'-6" to 135'-3"; along CL K-2 from CL 3 to 4, EL. 66'-6" to 92'-1"; along CL N from CL 2 to 3, EL. 66'-6" to 135'-3"; along CL L-2 from CL 2 to 3, EL. 66'-6" to 135'-3"; along CL 2 from L-2 to N-2, EL. 117'-6" to 135'-3"; and along CL 3 from K-2 to L-2, EL. 66'-6" to 92'-1".

For the inspection of the reinforced concrete walls of the Delay Bed/ Guard Bed Compartment Walls, the inspectors applied the guidance in Inspection IP 65001.01, "Inspection of ITAAC-Related Foundation and Buildings," IP 65001.02, "Inspection of ITAAC Related Installation of Structural Concrete," IP 65001.A, "Inspection of the As-Built Attributes for SSCs Associated with ITAAC," and IP 65001.F, "Inspection of ITAAC-Related Design and Fabrication Requirements." As part of the inspection, inspectors observed on-going concrete reinforcing steel placement and reviewed documents, applicable design drawings and specifications to verify construction activities were being conducted in accordance with design documents and applicable processes and procedures. Specifically, the inspectors verified that:

- contractors performing safety-related work had approved implementing procedures that described administrative and procedural controls, approved work processes, and inspection requirements;
- procedures clearly prescribed acceptable methods of quality control inspection which ensured that the as-built condition met specified design requirements, drawings and material specifications;
- procedures included appropriate quantitative and/or qualitative acceptance criteria for determining that the prescribed activities had been accomplished satisfactorily;
- fabrication/construction records for reinforcing steel and embedments were adequate to furnish evidence of activities affecting quality and that SSCs conform to applicable codes, standards, regulations, and quality and technical requirements;
- reinforcing steel and embedments were located properly in the structure and forms were secured and free of concrete or excessive rust, and had proper clearances; and
- reinforcing steel was installed in accordance with the latest approved-for-construction drawings, manufacturer's instructions, and procedures.

Inspectors also verified that:

- records related to inspected activities were accurate and that the recorded information met project requirements, DCD specifications, and ITAAC;
- records were approved, and correctly stored and maintained in such a manner as to demonstrate conformance with design and procedure requirements;
- nonconforming items are clearly identified, segregated, and dispositioned;
- nonconformance reports and other design deviation documents associated with SSCs that were dispositioned as "repair" or "use-as-is" were in accordance with applicable codes, standards, regulations, and quality and technical requirements and adequately evaluated by the responsible design organizations; and
- the licensee identified problems at an appropriate threshold and entered them into the corrective action program.

For the CA-20 module inspection, the inspectors applied the guidance of the previously mentioned IP's in addition to IP 65001.B, "Inspection of ITAAC-Related Welding Program." As part of the inspection, inspectors observed on-going welding activities and reviewed documents, applicable design drawings and specifications to verify construction activities, including NDE, were being conducted in accordance with design documents and applicable processes and procedures. The inspectors also reviewed various documents within the work packages, such as sub-assembly drawings, design drawings, and specifications, to verify:

- that contractors performing safety-related work had approved implementing procedures that described administrative and procedural controls, approved work processes, and inspection requirements;
- procedures clearly prescribed acceptable methods of quality control inspection which ensured that the as-built condition met specified design requirements, drawings and material specifications;
- procedures included appropriate quantitative and/or qualitative acceptance criteria for determining that the prescribed activities had been accomplished satisfactorily;
- work was conducted in accordance with a "traveler," weld data record or similar document which coordinated and sequences all operations, referenced procedures and instructions, established hold points, and provided for production welding and inspection signoffs;
- the welding activities were sufficiently protected from inclement conditions;
- surfaces to be welded were smooth, uniform, and free from significant surface discontinuities such as cracks or seams, and free from paint, oil, rust, scale, slag, grease, moisture or other harmful foreign materials;
- shielding gas flow and composition were monitored;
- welding variables for automated welding activities were routinely verified
- inspectors performing welding inspection were qualified;
- acceptance criteria for completed welds were in accordance with the applicable Code; and
- that weld profile tolerances were suitable and met code requirements.

Inspectors also verified that:

- records related to inspected activities were accurate and that the recorded information met project requirements, DCD specifications, and ITAAC;
- records were approved, and correctly stored and maintained in such a manner as to demonstrate conformance with design and procedure requirements;
- nonconforming items are clearly identified, segregated, and dispositioned;
- nonconformance reports and other design deviation documents associated with SSCs that were dispositioned as "repair" or "use-as-is" were in accordance with applicable codes, standards, regulations, and quality and technical requirements and adequately evaluated by the responsible design organizations; and
- that the licensee identified problems at an appropriate threshold and entered them into the corrective action program.

b. Findings

No findings were identified.

1A12 (Unit 3) ITAAC No. 766 / Family: 01Aa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 766 (3.3.00.02a.ii.c):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	ii) An inspection of the as-built concrete thickness will be performed.	ii.c) A report exists that concludes that as-built concrete thicknesses of the non-radiologically controlled area of the auxiliary building sections conform to the building sections defined in Table 3.3-1.

The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.A - As-Built Attributes for SSCs associated with ITAAC
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors performed a field inspection of construction activities associated with ITAAC 766 (3.3.00.02a.ii.c) along the construction joints for Column Line M, L and K walls from elevation 66'-6" to 82'-6" of the Vogtle Unit 3 site. The field activities for the wall applied the guidance in Inspection Procedure 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components Associated with ITAAC." For the reinforced concrete walls, the inspectors performed independent measurements and reviewed documents, applicable design drawings and specifications to verify that the required wall thickness, as defined in the licensing basis, were met.

b. Findings

No findings were identified.

1A13 (Unit 3) ITAAC No. 766 / Family: 01Aa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 766. The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.A.02.02 - Installation Records Review

The inspectors performed a review of non-radiologically controlled portion of the Unit 3 basemat thickness report associated with ITAAC 766 (3.3.00.02a.ii.c). The inspection activities included the guidance in Inspection Procedure 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components Associated with ITAAC." For the non-radiologically controlled portion of the basemat, the inspectors reviewed applicable documents to verify that the basemat thickness, as defined in the licensing basis, was met.

b. Findings

No findings were identified.

1A14 (Unit 3) ITAAC No. 767 / Family: 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 767 (3.3.00.02a.ii.d):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	ii) An inspection of the as-built concrete thickness will be performed.	ii.d) A report exists that concludes that the as-built concrete thicknesses of the radiologically controlled area of the auxiliary building sections conform to the building sections defined in Table 3.3-1.

The inspectors used the following NRC inspection procedure/section to perform this inspection:

- 65001.A.02.02 - Installation Records Review

The inspectors performed a review of radiologically controlled area of the Unit 3 basemat thickness report associated with ITAAC 767 (3.3.00.02a.ii.d). The inspection activities included the guidance in Inspection Procedure 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components Associated with ITAAC." For the radiologically controlled area of the basemat, the inspectors reviewed applicable documents to verify that the basemat thickness, as defined in the licensing basis, was met.

b. Findings

No findings were identified.

## 1A15 (Unit 3) ITAAC No. 774 / Family: 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 774 (3.3.00.02f):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.f) The key dimensions of nuclear island structures are defined on Table 3.3-5.	An inspection will be performed of the as-built configuration of the nuclear island structures.	A report exists and concludes that the key dimensions of the as-built nuclear island structures are consistent with the dimensions defined on Table 3.3-5.

The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.01-02.04 - Key Dimensions and Volumes
- 65001.01-02.06 - Records

The inspectors reviewed approved licensee procedures for construction and monitoring of foundations in the Vogtle Unit 3 Nuclear Island. The inspectors reviewed procedures for monitoring settlement of the nuclear island and field surveying. The inspectors verified that these procedures contained adequate instructions, a clear method of quality control of measuring and test equipment use, and a clear acceptance criteria for the work activities.

In addition, the inspectors performed an independent, direct measurement of the following key dimensions in the nuclear island at the elevation 66'6" (basemat level).

- X1 - Distance between Outside Surface of walls at Column Line I & N when Measured at Column Line 1
- X3 - Distance from Outside Surface of wall at Column Line 11 to Column Line 7 when Measured at Column Line I
- X4 - Distance between Outside Surface of walls at Column Line I & Q when Measured at Column Line 11
- X5 - Distance from Outside Surface of wall at Column Line Q to Column Line N when Measured at Column Line 11

The inspectors verified that these dimensions met the requirements listed in Appendix C, Table 3.3-5, "Key Dimensions of Nuclear Island Building Features" of the Vogtle Unit 3 Combined License.

The inspectors reviewed the survey data for the nuclear island at 66'6" and performed independent calculations to verify the other dimensions of the Nuclear Island were in accordance with Appendix C, Table 3.3-5. The inspectors verified that the data was approved by appropriate personnel.

b. Findings

No findings were identified.

1A16 (Unit 4) ITAAC No. 91 / Family: 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 91 (2.2.01.02a). The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.06-02.05 - Problem Identification and Resolution
- 65001.F-02.02 - Fabrication Records Review
- 65001.11-02.07 - Offsite Fabrication of Assemblies
- 65001.11-02.11 - Problem Identification and Resolution

The inspectors reviewed documents associated with spare penetration P-42 and lower ring plates A9 and D5 to verify that materials and components of the containment vessel met the applicable requirements of the ASME Section III code. Specifically the inspectors reviewed the receipt inspection report, ASME N-2 data sheet, and all CMTRs associated with spare penetration 42 assembly to verify that the receipt, fabrication, and material properties met the applicable ASME Code and quality requirements. For plates A9 and D5, the inspectors reviewed the receipt inspection reports, associated NCRs, and CMTRs to verify that the plates met the applicable ASME Code and quality requirements.

b. Findings

No findings were identified.

1A17 (Unit 4) ITAAC No. 93 / Family: 06B

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 93 (2.2.01.03a). The inspectors used the following NRC inspection procedures/sections to perform this inspection:

- 65001.06-02.01 - General Installation
- 65001.06-02.02 - Component Welding
- 65001.11-02.03 - Installation and Welding
- 65001.11-02.05 - Nondestructive Examination
- 65001.B-02.03 - Welder Qualification
- 65001.B-02.04 - Production Controls
- 65001.F-02.02 - Fabrication Records Review
- 65001.F-02.03 - Observation of Fabrication Activities

The inspectors performed a record review inspection of the three pressure boundary welds comprising the spare penetration P-42 assembly (Weld numbers WB4-P42-N,

WB4-P42-F, and WB4-A5-A) to verify they met the requirements of the ASME Section III Code. Specifically the inspectors reviewed:

- the weld filler metal CMTRs to verify that the filler metal met the code quality, chemical, and strength requirements;
- the welder performance qualification records to verify that the welders performed code specified qualification tests, that they were fully documented, and that they were qualified to perform the weld;
- the welding procedures to verify they met and implemented the requirements of the ASME Code; and
- the radiographic (i.e. X-ray) film, and the magnetic particle and radiographic inspection reports to verify that the welds were examined and accepted as required by the ASME Code.

The inspectors also performed a direct visual examination of the six welds to verify that the welds' profiles, locations, sizes, and quality were adequate.

The inspectors observed manual flux core arc welding in-process on the horizontal girth weld joining the lower ring courses one and two to verify that welding was performed in accordance with the applicable quality and ASME Code requirements. Specifically the inspectors verified that the following attributes were within the limits of the welding procedure:

- voltage & wire feed speed;
- amperage;
- heat input;
- preheat and interpass temperature;
- interpass cleaning; and
- weld pass size and technique.

b. Findings

No findings were identified.

1A18 (Unit 4) ITAAC No. 96 / Family: 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 96 (2.2.01.04a.ii).

The inspectors used the following NRC inspection procedure/section to perform this inspection:

- 65001.F-02.02 - Fabrication Records Review

The inspectors reviewed a number of CMTRs associated with pressure boundary materials of the lower ring of the containment vessel to verify that the impact toughness was in accordance with the requirements of the ASME Section III Code. Specifically the

inspectors reviewed CMTRs for plates A9 and D5 and the sleeve, blind flange, and insert plate comprising spare penetration P-42.

b. Findings

No findings were identified.

1A19 (Unit 4) ITAAC No. 761 / Family: 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 761 (3.3.00.02a.i.b). The inspectors used the following NRC inspection procedure/section to perform this inspection:

- 65001.02-02.01 - Inspection of Concrete Placement

The inspectors performed a field inspection of construction activities associated with the area under the Containment Vessel Bottom Head (CVBH) for Vogtle Unit 4. The inspectors applied the guidance contained in Inspection Procedure 65001.02 "Inspection of ITAAC - related Installation of Structural Concrete". Also, the inspectors performed an inspection of the reinforcing steel installation associated with the CR-10 module, located in the area beneath the CVBH. Specifically, the inspectors observed the reinforcement bar installation of Layer 6, circumferential reinforcement, located between radii 33' through 55' of CR-10 module and performed a walkdown of Layer 5, before its placement at the center of CR-10 module with a North to South orientation.

The inspectors independently determine whether:

- proper reinforcement bar size and lap splice as specified on design drawings were achieved for layer 6, circumferential reinforcement bar, and Layer 5;
- quality Control inspections were performed and the correct bar-size, bar-count, and lap splice length was verified; and
- an adequate marking system was used to maintain the identity of material from storage to installation.

In addition, the inspectors reviewed the applicable construction drawings to determine if the fabrication of CR-10 module was performed in accordance with the Design Control Document (DCD) and the applicable code sections of American Concrete Institute (ACI) 349-01, "Code Requirements for Nuclear Safety Related Concrete Structures".

b. Findings

No findings were identified.

## 1A20 (Unit 4) ITAAC No. 766 / Family: 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 766 (3.3.00.02a.ii.c):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	ii) An inspection of the as-built concrete thickness will be performed.	ii.c) A report exists that concludes that as-built concrete thicknesses of the non-radiologically controlled area of the auxiliary building sections conform to the building sections defined in Table 3.3-1.

The inspectors used the following NRC inspection procedure/section to perform this inspection:

- 65001.A.02.02 - Installation Records Review

The inspectors performed a review of non-radiologically controlled area of the Unit 4 basemat thickness report associated with ITAAC 766 (3.3.00.02a.ii.c). The inspection activities included the guidance in Inspection Procedure 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components Associated with ITAAC." For the non-radiologically controlled area of the basemat, the inspectors reviewed applicable documents to verify that the basemat thickness, as defined in the licensing basis, was met.

b. Findings

No findings were identified.

1A21 (Unit 4) ITAAC No. 767 / Family: 01Aa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 767 (3.3.00.02a.ii.d):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	ii) An inspection of the as-built concrete thickness will be performed.	ii.d) A report exists that concludes that the as-built concrete thicknesses of the radiologically controlled area of the auxiliary building sections conform to the building sections defined in Table 3.3-1.

The inspectors used the following NRC inspection procedure/section to perform this inspection:

- 65001.A.02.02 - Installation Records Review

The inspectors performed a review of the radiologically controlled area of the Unit 4 basemat thickness report associated with ITAAC 767 (3.3.00.02a.ii.d). The inspection activities included the guidance in Inspection Procedure 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components Associated with ITAAC." For the radiologically controlled area of the basemat, the inspectors reviewed applicable documents to verify that the basemat thickness, as defined in the licensing basis, was met.

b. Findings

No findings were identified.

1P01 Quality Assurance Implementation, Appendix 3, Inspection of Criterion III – Design Control (35007).1 Resident Program Inspectiona. Inspection Scope

The inspector reviewed a sample of Licensing Document Change Requests (LDCR) and associated Applicability Determination and 50.59/Departure Screenings, to determine whether the licensee performed an adequate evaluation of the design change impact on the Vogtle Unit 3 and Unit 4 current licensing basis.

The inspector specifically reviewed the following LDCRs:

- LDCR 2012-030, "UFSAR Changes Associated with the Technical Specifications Upgrade."
- LDCR 2013-052, "Liquid Radwaste System (WLS) Monitor Tanks."
- LDCR 2013-055, "Equipment and Maintenance Hatch Hoist Load Rating."

The inspector reviewed the changes to verify that the LDCRs:

- did not result in a modification, addition to, or removal of a structure, system, or component (SSC) such that a design function is adversely affected;
- had no impact on plant operating procedures or a method of control that adversely affects a design function;
- did not result in an adverse change to a method of evaluation or use of an alternate method of evaluation;
- did not represent tests or experiments outside the reference bounds of the design basis; and
- did not alter the assumptions or results of the ex-vessel severe accident assessment.

The inspector verified that these departures did not involve changes to Tier 1 information, Tier 2\* information or the Technical Specifications. The inspector reviewed 10 CFR 50.59/10 CFR 52 Appendix D Section VIII to verify that no prior NRC approval was required.

The inspector reviewed the following Southern Company and Westinghouse procedures to ensure that the LDCRs were performed in accordance with their design control program and properly evaluated against the current licensing basis as described in the Vogtle Units 3 and 4 UFSAR:

- Westinghouse Document No: APP-GW-GAP-140; AP1000 Licensing Applicability Determination and 10 CFR 50.59/10 CFR 52 Appendix D Section VIII Screening.
- Southern Company Document No: ND-LI-VNP-002 Version 7.0; Applicability Determination and 50.59 / Departure Screening for VEGP 3&4.
- Southern Company Document No: ND-LI-VNP-003 Version 5.0; 50.59 / Departure Evaluations for Vogtle 3&4.
- Southern Company Document No: ND-LI-VNP-007 Version 2.0; Licensing Document Change Requests for VEGP Units 3&4.

b. Findings

No findings were identified.

.2 Resident Program Inspection

a. Inspection Scope

The inspectors reviewed a sample of E&DCRs to determine whether these changes were performed in accordance with procedure number APP-GW-GAP-420, "Engineering and Design Coordination Report," Revision 8. The inspectors also evaluated these

design changes for conformance to 10 CFR Part 50, Appendix B, Criterion III, "Design Control," and Supplement 3S-1, "Supplementary Requirements for Design Control," of ASME NQA-1-1994. The inspectors reviewed the licensing impact determination screening associated with each of these design changes to determine whether the change was properly evaluated against the current licensing basis as described in the Vogtle Unit 3 and Unit 4 updated final safety analysis report (UFSAR) and was performed in accordance with procedure APP-GW-GAP-420. Furthermore, the inspectors reviewed these E&DCRs to determine whether each change received the proper level of engineering review and was incorporated into all affected documents. Specifically, the inspectors reviewed the following E&DCRs:

- SV0-CC01-GEF-000155, "Serviceability of Conc. and Grout," Revision 0
- SV0-CC01-GEF-000156, "Water in Crevices," Revision 0
- SV0-CC01-GEF-000178, "Conduit Clearance to Rebar," Revision 0
- SV0-CC01-GEF-000179, "Requirements When Placing with SCC," Revision 0
- SV0-CC01-GEF-000185, "Placement of Concrete Outside of the CVBH," Revision 0
- APP-1200-GEF-021, "Chem Lab Pipe Routing Clarification," Revision 0
- APP-1200-GEF-213, "Structural Steel Connections Modification: Aux Bldg 1F-type Seated Beams," Revision 0
- APP-1200-GEF-297, "Auxiliary Building EL 82'-6" and EL 92'-6" Steel Connections to Shield Building Wall," Revision 0
- APP-1200-GEF-301, "Structural Steel Connection Modification: Aux Bldg Seated Beams at CA20 EL 82'-6", EL 92'-6" & EL 107'-2", Revision 0
- APP-1200-GEF-313, "Standard Openings Design Release," Revision 0
- APP-1200-GEF-335, "Auxiliary Building @ Elev. 100'-0" Area 1 Stair S02 Framing Constructability Adjustment," Revision 0
- APP-1200-GEF-362, "Update to Precast Concrete Panel General Notes," Revision 0
- APP-1223-GEF-040, "Auxiliary Building Precast Panel U-Bar Size Clarification," Revision 0
- APP-CC01-GEF-004, "Clarification of Mechanical Splice Stagger Requirements," Revision 0
- APP-CE01-GEF-007, "FNC: Modification to Bent Headed Anchor Details," Revision 0
- APP-CE01-GEF-025, "Clarification on Tolerances for Headed Anchor Type and Deformed Wire Type Embedment Plates," Revision 0
- APP-CE01-GEF-032, "DWA Diameter Reduction and Addition of Hook Bar Details," Revision 0

b. Findings

No findings were identified.

1P02 Quality Assurance Implementation, Appendix 7, Inspection of Criterion VII – Control of Purchased Material, Equipment, and Services (35007)

.1 Resident Program Inspection

a. Inspection Scope

The inspectors reviewed documentation for floor support ledges, backing bars, and plugs that will be used in the construction of module CA20 (areas 5 and 6 of the radiological controlled Auxiliary Building).

Specifically, inspectors verified that backing bars used for welding submodules of CA20 together were purchased, procured, and inspected in accordance with the licensee's Quality Assurance Program. The inspectors reviewed purchase orders for the backing bar, and reviewed the Certified Material Test Reports (CMTRs), certificates of conformance provided by the vendor to the subcontractor that the shape, size, dimensions, type, and grade of material conformed to the specifications. The inspectors verified that the material in the laydown yard was traceable to the purchase orders, reviewed receipt inspection reports by the fabricator to ensure that the material was accepted for use in accordance with approved procedures, and that the material was stored in accordance with specifications.

The inspectors reviewed CMTRs to verify that the plugs used in joining the submodules of CA20 together met the specifications as described by ASTM A572-91 Grade 60.

The inspectors reviewed documentation for the floor support ledges to ensure that they met applicable quality, technical, and regulatory requirements. Specifically, the inspector reviewed material test reports to ensure that the material was manufactured in accordance with the specification, ASME SA-240. The inspector reviewed applicable receiving reports of the floor support ledges used in subassembly 2 of CA20 and observed the material in storage to ensure that the storage conditions met the applicable quality requirements.

b. Findings

No findings were identified.

.2 Resident Program Inspection

a. Inspection Scope

The inspectors reviewed Chicago Bridge and Iron (CB&I) Quality Assurance Directive (QAD) 18.12, "Quality Assurance Surveillances," revision 02.01 to determine whether this procedure was compliant with the CB&I quality assurance program (SWSQAP 1-74A Revision B); 10 CFR Part 50, Appendix B and ASME NQA-1-1994. The inspectors reviewed this procedure to evaluate whether it provided adequate direction for performing and documenting Quality Assurance Surveillances of CB&I internal activities.

The inspectors reviewed a sample of CB&I quality assurance surveillance reports to determine whether the documentation of these surveillances was consistent with section

6.5 and 6.6 of CB&I QAD 18.12, "Quality Assurance Surveillances," revision 02.01. Specifically, the inspectors reviewed the following CB&I surveillance reports:

- Surveillance number S-132175-2014-019, "Review of QC Routine Inspections for Supporting CAR 2013-2017"; and
- Surveillance report number S-132175-2014-017, "Issue, Control, Use and Return of M&TE".

b. Findings

No findings were identified.

1P03 Quality Assurance Implementation, Appendix 10, Inspection of Criterion X – Inspection (35007)

a. Inspection Scope

The inspectors reviewed a representative sample of SNC and CB&I quality assurance (QA) documents associated with the inspection of safety-related risk significant items. Specifically, the inspectors reviewed procedures, specifications, inspection plans, and inspection reports, to verify compliance with the NRC-approved Quality Assurance Program Description and commitments in the Updated Final Safety Analysis Report.

The inspectors evaluated a sample of QC and QA implementation documents associated with safety-related items that required inspection verification. Specifically, the inspectors reviewed Construction Quality Checklists and Inspection Plans for post-placement activities and final inspections for safety-related concrete under the CVBH of the Unit 3 nuclear island. The inspectors also observed the installation of Residual Heat Removal (RHR) Pump Stands A and B, and ongoing QC inspections associated with material traceability and size of slotted holes on the brace frames of these pump stands. The QC inspector and Authorized Nuclear Inspector qualifications were reviewed by the NRC inspectors. The documents were evaluated to verify that they provided for, or identified, the following:

- examinations and measurements for each work operation, where necessary;
- frequency or points of inspection;
- holds/witness points;
- qualified inspection personnel who did not directly supervise or perform the work;
- acceptance criteria;
- final inspection of item or work operation to verify conformance with acceptance criteria; and
- re-inspection when a deficiency or non-conformance is identified subsequent to final inspection.

The inspectors also evaluated a sample of completed inspection documents associated with safety-related construction. Specifically, the inspectors reviewed inspection reports for completed safety-related concrete, and reinforcing within the Unit 3 nuclear island. The inspectors reviewed completed work documents to verify the following were included:

- observation or type of method used to perform inspection;

- item inspected and date of inspection;
- identification of person conducting inspection;
- Measuring and Test Equipment (M&TE) used during inspection;
- identification or reference to acceptance criteria, sampling plan, or reference documents used to determine acceptance;
- results or description of inspection performed;
- evaluation of acceptability and identification of person determining acceptability;
- results indicating acceptability of characteristics inspected; and
- resolution of corrective actions for noted non-conformances or deficiencies.

b. Findings

No findings were identified.

1P04 Quality Assurance Implementation, Appendix 12, Inspection of Criterion XII – Control of Measuring and Test Equipment (35007)

a. Inspection Scope

The inspectors observed CB&I rod room personnel perform temperature measurements on rod ovens in the Modular Assembly Building rod room in order to determine whether calibrated M&TE was in use and if defective M&TE was handled accordingly. These measurements were taken with digital pyrometer V-AP-0102. The ovens are also continuously monitored by chart recorder V-4-0032, the inspectors and the rod room attendant noticed that temperature measurements differed between the chart recorder and pyrometer. The attendant removed the pyrometer from service and CB&I Power initiated a failed calibration M&TE Evaluation. It was discovered that the probe for the pyrometer had become damaged from use. The probe was replaced for instrument retesting and was found to be in tolerance. The chart recorders for the rod ovens were in calibration and data was sufficient to establish that the ovens had not been outside of the allowed temperature ranges and the requirements of FMC-1, "Filler Material Control" were met. The inspectors also noted that temperature and humidity recorders V-U-0037-3 and V-U-0039-3 were calibrated and used as required to ensure the general rod room atmospheric conditions were satisfactory.

The inspectors observed CB&I personnel perform a current check on a welding machine lead being used for gas tungsten arc welding on the CA20 module. The current check was performed with Fluke 370 clamp meter V-2Z-0026 that was within its required calibration period. The measurements confirmed that the voltage and current readings displayed on welding machine ZD-MMB390402 were accurate.

b. Findings

No findings were identified.

1P05 Quality Assurance Implementation, Appendix 13, Inspection of Criterion XIII – Handling, Storage and Shipping (35007)

a. Inspection Scope

The inspectors performed walkdowns of the CB&I controlled storage areas to determine whether CB&I had controlled the storage of safety-related equipment to prevent damage or deterioration. Specifically, the inspectors observed the storage areas to determine whether CB&I was adequately implementing Section 13, "Handling, Storage, and Shipping," of SWSQAP 1-74A, "CB&I Standard Nuclear Quality Assurance Program," revision B; and Quality Standard (QS) 13.11, "Material/Equipment Storage," revision C. The inspectors examined the following items in the CB&I designated storage areas for compliance with program requirements:

- Shield building panels;
- Welding filler material;
- CA20 structural material;
- Accumulator Tanks;
- Core Makeup Tanks;
- Reactor Vessel; and
- Reinforcing steel.

The inspectors observed storage areas to ensure the following storage requirements were properly implemented:

- Storage areas were properly designated;
- Materials were properly segregated to avoid deleterious effects; and
- Materials were properly supported.

The inspectors performed an inspection of the welding rod room associated with module assembly work. The inspectors observed storage conditions and access controls to determine whether welding materials were adequately controlled to prevent damage and deterioration. Specifically, the inspectors observed rod ovens and measuring equipment to verify that filler material was stored in accordance with FMC-1, "Filler Metal Control," Revision 3. The inspectors also reviewed the holding oven temperature verification log recordings from FMC-1-02, Revision 0 for the period from January 13-19, 2014 to verify that the logs were being maintained and that the oven temperatures were within specification as required by FMC-1.

The inspectors performed an inspection of the shipping configuration for submodule CA01-03 to determine whether blocking and bracing were used to prevent the movement of the submodule during shipment. The inspectors verified that the submodule was appropriately marked for identification and that the material was supported in a fashion to prevent corrosion.

The inspectors attended the CA20 module placement readiness review meeting in order to determine if appropriate measures were planned to ensure the safe travel and setting of the module into the auxiliary building. The inspectors reviewed work packages associated with the lifting lug attachments needed to attach the module to the heavy lift derrick in order to determine whether adequate information was supplied to craft for

lifting lug installation and to determine whether records were established to document work completion. The inspectors interviewed engineers, welding foremen, welders and support staff to verify that work packages were adequate for lifting lug installation and work was completed in accordance with the work package.

b. Findings

No findings were identified.

1P06 Quality Assurance Implementation, Appendix 15, Inspection of Criterion XV – Nonconforming Materials, Parts, or Components (35007)

a. Inspection Scope

Inspection of QA Program Implementation

The inspectors reviewed a sample of Non-Conformance & Disposition (N&D) reports to determine whether the conditions were adequately reviewed and accepted, rejected, repaired, or reworked in accordance with the QA program implementing documents for the control of nonconforming material, parts, and components. The inspectors compared these N&D reports to Section 15, "Nonconforming Materials, Parts, or Components," of the CB&I QA program (SWSQAP 1-74A, Revision B) and CB&I procedure QS 15.1, "Nonconformance & Disposition Report," Revision 4.

The inspectors selected the following evaluations of nonconforming items that the licensee either rejected, repaired, reworked, or accepted through evaluation:

- SV3-MI01-GNR-090, "Core Barrel - Neutron Shield Panel Dowel Pin Hole Deviation," revision 0;
- SV0-MP06-GNR-002, "Deviation Notice for AP1000 MP06 CVS Makeup Pump Cleaning Requirements," revision 0;
- SV3-CA04-GNR-000020, "CA04 Nonconforming Stud Locations," revision 0;
- SV3-CR01-GNR-000081, "Clear Cover: Battery Room Walls L, M, and P from 66'-6" to 82'-6"";
- SV3-CA20-GNR-00036, "CA20-29/30 West LC Fit-up," revision 0;
- SV3-CA20-GNR-000270, "CA20-30 Excessive Weld Reinforcement," revision 0;
- SV3-CA20-GNR-000370, "CA20-29/30 West LC NDE," revision 0; and
- SV3-CA20-GNR-000389, "CA20-30 Studs Bent during CA20 NI Set," revision 0

During the review of the above N&D reports, the inspectors determined if the reports properly identified the nonconforming items, and if the systems for initiating, processing, and closing non-conformances were followed. The inspectors specifically determined if:

- reportability screening and evaluations under 10 CFR Part 21 and 10 CFR 50.55(e) were performed;
- the disposition, such as use-as-is, reject, repair, or rework of nonconforming items were properly identified and documented;
- adequate technical justification for the acceptability of a nonconforming item, dispositioned as repair, or use-as-is was appropriately documented;

- non-conformances to design requirements dispositioned as use-as-is or repair were subjected to design control measures commensurate with those applied to the original design;
- the as-built records properly reflected the accepted deviation, if applicable;
- controls were implemented to preclude the inadvertent use of nonconforming items and that nonconforming items were marked or tagged and segregated; and
- repaired or reworked items were reexamined in accordance with applicable procedures and with the original acceptance criteria unless the disposition had established alternate acceptance criteria.

b. Findings

No findings were identified.

1P07 Quality Assurance Implementation, Appendix 16, Inspection of Criterion XVI – Corrective Action (35007)

.1 Resident Program Inspection

a. Inspection Scope

Daily Corrective Action Program Review

As part of the various inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during inspection activities and plant status reviews to verify they were being entered into the licensee's corrective action program at an appropriate threshold. The inspectors verified that adequate attention was being given to timely corrective actions and any adverse trends were identified and addressed. The inspectors reviewed corrective action program procedures and evaluated implementation of these procedures to determine whether the procedures contained guidance for the following attributes:

- classification, prioritization, and evaluation for reportability (i.e., 10 CFR 50.55(e)) of conditions adverse to quality;
- complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery;
- screening of items entered into the Corrective Action Program (CAP) to determine the proper level of evaluation;
- identification and correction of: procurement documents errors; deviations from procurement document requirements; defective items; poor workmanship; incorrect vendor instructions; significant recurring deficiencies at both vendor shops and on site; and generic procurement related deficiencies;
- identification and correction of design deficiencies;
- consideration of extent of condition, generic implications, common cause, and previous occurrences;
- classification and prioritization of the resolution of the problem commensurate with its safety significance;
- identification of corrective actions that are appropriately focused to correct the problem;

- identification of root and contributing causes, as well as actions to preclude recurrence for significant conditions adverse to quality;
- completion of corrective actions in a timely manner commensurate with the safety significance of the issue; and
- provisions for escalating to higher management those corrective actions that are not adequate or not timely;
- conditions adverse to quality were trended to proactively identify potential adverse trends and potential common cause problems, and the trending results were reported to management.

#### Routine Review of Items Entered into the Corrective Action Program

On a routine basis, the inspectors screened a sample of issues entered into the licensee and the Engineering Procurement and Construction (EPC) consortium's corrective action programs. The inspectors attended several weekly management review committee meetings at the site and held discussions with licensee and EPC consortium personnel responsible for the screening and correction of the issues to determine if:

- the licensee and the EPC consortium were identifying equipment, human performance, and program issues at an appropriate threshold and were entering the issues into their respective corrective action programs;
- the licensee and the EPC consortium appropriately classified the issues and took appropriate short-term corrective actions;
- conditions adverse to quality were controlled in accordance with each company's quality assurance program; and
- potential adverse trends were appropriately identified and corrected by the licensee or their contractors.

On March 17, 2014, the inspectors attended the CB&I corrective action review board meeting.

#### Selected Issues for Follow-Up Inspection

Based on the inspectors' routine screening of corrective action records, the inspectors selected a sample of issues entered in the corrective action programs to determine if the handling of these issues was consistent with the applicable quality assurance program requirements and 10 CFR Part 50, Appendix B. Specifically, the inspectors reviewed the corrective action records listed in the documents reviewed section of this report. The inspectors reviewed these corrective action documents to determine if:

- conditions adverse to quality were promptly identified and corrected;
- classification and prioritization of the resolution of the problem was commensurate with its safety significance;
- for significant conditions adverse to quality: the cause was determined, corrective actions were taken to prevent recurrence, and the cause and corrective actions taken were documented and reported to appropriate levels of management;
- conditions were appropriately screened;
- the licensee and their contractors properly evaluated and reported the condition in accordance with 10 CFR 50.55(e) and 10 CFR 21;

- the identification and correction of design deficiencies were being adequately addressed; and
- extent of condition was being adequately addressed; and
- appropriate corrective actions were developed and implemented.

b. Findings

No findings were identified.

**4. OTHER INSPECTION RESULTS**

4OA6 Meetings, Including Exit

.1 Exit Meeting

On April 3, 2014, the inspectors presented the inspection results to Mark Rauckhorst, Vogtle 3 & 4 Construction Vice President, along with other licensee and consortium staff members. The inspectors stated that no proprietary information would be included in the inspection report.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensees and Contractor Personnel**

M. Yox, SNC Licensing Manager  
S. Hand, CB&I QA Manager  
A. Reynolds, CB&I QC Manager  
K Logue, CB&I QC Manager  
S. Summerall, CB&I Power Welding Foreman/Welder  
D. Towns, CB&I Power Welding Foreman/Welder  
G. Egebrecht, Authorized Nuclear Inspector

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Type</u>	<u>Status</u>	<u>Description</u>
05200025/2014002-001	NCV	Open	Inadequate anchorage of shear stirrups in precast elements of reinforced concrete slabs

### LIST OF DOCUMENTS REVIEWED

#### Section 1A01:

CB&I procedure CMS-720-03-PR-06251 Site Receipt, Inspection, Storage, and Release of Material and Code Parts. Rev. 3  
 CMTRs KN-1467, RINJQ-225-1, RINJQ-225-5-2, RINJQ-225-5-4, 6115-10, 6141-7  
 Receipt inspection Reports: U3-093, U3-191, U3-211  
 N-2 Data Report IHI B3-A5-A

#### Section 1A02:

##### CMTRs:

KN-1467, RINJQ-225-1, RINJQ-225-2, RINJQ-225-5-4, 1075G  
 Welder Qualification records for IHI welder ID's: 1925, 1972, 0397, 1999  
 Welder Qualification Records for CB&I welder ID's: 491, 725, and 491  
 IHI Welding Procedures: IT-1118G Rev. 1, I-11R2G Rev. 3, IT-1120G Rev. 0  
 CB&I Welding Procedures: E9018 H4 R Rev. 7, E91TG-H4 Rev. 8  
 Radiographic film for weld numbers WB3-P41-N, WB3-P41-F, WB3-A5-A, D3-D24, C29-C30, E9-E10  
 IHI NDE records: MT-003-RP-WB3-P40~P42-N, MT-003-AP-WB3-P40~P42-N, RT-003-WB3-A5-A-SR, RT-003-WB3-P40, 41, 42-F  
 CB&I NDE records: MT-U3-417, RT-U3-192, MT-U3-476, RT-U3-207, MT-U3-352, RT-U3-142

#### Section 1A03:

##### CMTRs:

1075G, 6115-10, 6141-7

#### Section 1A04:

##### Procedures:

100-UT-310, Ultrasonic Examination of Welds in Accordance with The AWS Structural Welding Code D1.1, rev.6

Drawings:

SV3-CA04-S5K-CV2033, CA04 weld map

NDE Reports

V-14-MT-302-101

V-14-UT-310-056

Miscellaneous

Work Package SV3-CA04-S5W-CV1546

**Section 1A05:**Weld Records:

SV3-CA04-S4W-CV1551 - Weld no. CV2066-1-RW2

SV3-CA04-S4W-CV1551 - Weld no. CV2066-1-BDU-1-RW2

SV3-CA04-S4W-CV1551 - Weld no. CV2066-1-BDU-1-RW1

SV3-CA04-S4W-CV1551 - Weld no. CV2066-1-BDU-1

NDE Report:

V-13-MT-302-1064

V-13-UT-303-201

V-13-MT-302-1117

V-13-UT-333-219

V-13-MT-302-1129

V-13-UT-303-224

**Section 1A06:**Procedures:

NCSP 3-42-1, Reinforcing Steel Installation

100-MT-302, Magnetic Particle Examination in Accordance with AWS Structural Steel Welding Code

100-PT-304, Liquid Penetrant Examination In Accordance with the AWS Structural Steel Welding Code

100-UT-310, Ultrasonic Examination of Welds in Accordance with The AWS Structural Welding Code D1.1

Drawings:

APP-1210-CR-990, Rev. 4, Auxiliary Building Concrete Reinforcement Secondary Walls  
Elevation EL 66'-6"

APP-1210-CR-991, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Walls  
Elevation EL 66'-6"

APP-1210-CR-992, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Wall Sections  
and Details Elevation EL 66'-6"

APP-CE01-CE-002, Rev. 3, Standard Embedment Plates Deformed Wire Anchor (DWA) Type

APP-CA20-S5-26004, Rev. 5, Auxiliary Building Areas 5 & 6 Module Ca20 Submodule  
CA20\_26 Structural Outline Horizontal Sections/ Views

APP-CA20-S5-25005, Rev. 5, CA20 Vertical Sections/ Views (Sheet 1)

APP-CA20-S5-25006, Rev. 4, CA20 Vertical Sections/ Views (Sheet 2)

Miscellaneous:

APP-1210-GEF-195, Auxiliary Building A2 Secondary (Small) Walls up to EL 82'-6" Reinforced  
Concrete Design, Rev. 0

APP-CA00-GEF-000002, Module Reinforcement Clarification, Rev. 0

SV3-CR01-GNR-000071, Reduced Concrete Cover at Battery Room Walls J, K, M, and P, Rev.  
0

SV0-CA20-GEF-000055, Leak Chase Bent Plate NDE Req, Rev. 0

SV0-CR01-GEF-000201, Lap Splice & development lengths, Rev. 0

SB0-CR01-GEF-000202, Couplers on #9 and Larger U-Bars, Rev. 0

SV3-CR01-GEF-000089, Nuclear Island #11 Wall Dowels, Rev. 0

SV3-CR01-GEF-000094, Addition of Bar at 6" pipe-Q Line, Rev. 0

SV3-CR01-GEF-000098, #11 Horizontal Rebar Shield Bldg, Rev. 0

SV3-CA20-GEF-000060, Spacer frame for CA20-08A, Rev. 0

APP-CA00-GEF-850013, Spreader Angle NDE (SV3, SV4), Rev. 0

Work Packages:

WP# SV3-CA20-S4W-CV0437, CA20 SA4 Wall Submodule Assembly (Includes 26, 27, 28, 29,  
30, 71, 72, 73)

SV3-CA20-S4W-CV1406, CA20 SA3 Wall Submodule Assembly (18, 19, 20, 21, 22, 23, 24, 25)

SV3-1200-CRW-CV-1413, Rebar for Aux Building Wall Placement (8, 9, 10, 11, 12, 13, 14, 16,  
17, & 18)

SV3-1200-CRW-CV-1410, Rebar for Aux Building Wall Placement (5, 6, & 6)

**Section 1A07:**

Certifications:

NRMCA Batch Plant Certification No. 831903

Batch Plant Calibration Records:

V-LC-0009-9

V-LC-0010-9

V-LC-0012-9

V-LC-0014-9

V-LC-0016-9

Concrete Constituents Laboratory Test:

VSC 16395 2013-04-29

VSC 17053 2013-08-16

VSC 17607 2013-07-30

Design Specifications:

SV3-CC01-Z0-26, Safety Related Mixing and Delivering Concrete, Westinghouse Seismic Category I, Safety Class C "Nuclear Safety", Rev. 5

SV3-CC01-Z0-031, Safety Related Placing Concrete and Reinforcing Steel, Westinghouse Seismic Category I, Safety Class C "Nuclear Safety", Rev. 3

APP-CC01-Z0-027, Safety Related Concrete Testing Services, Westinghouse Safety Classification C, Rev.2

Procedures:

NCSP 3-31-1, Concrete Placement, Rev. 1

NCSP-PCN-3-31-1-C, Procedure Change Notice, Rev. 1

CSI 3-32-1, Concrete Batch Plant Mix and material Control

E&DCR's:

SV0-CC01-GEF-000179, Requirements when placing with SCC, Rev.0

SV0-CC01-GEF-000181, Use of SCC outside of CVBH, Rev.0

SV0-CC01\_GEF-000185, Supersedes SV0-CC01-GEF-000181, Rev. 0

SV0-CR01-GEF-000067, CR10 Rebar Interferences, Rev. 0

SV0-CC01-GEF-000173, Issues for Placement under CVBH, Rev. 0

SV0-CR01-GEF-000232, Annulus Tunnel # 11 Bars, Rev. 0

APP-1010-GEF-032, Removal of concrete blockouts below CVBH, Rev. 0

Inspection Plans

F-C113, Placing Safety Related Concrete (Nuclear Island), Rev. 9, CHG. 1

**Section 1A08:**Procedures:

NCSP 3-42-1, Reinforcing Steel Installation

100-MT-302, Magnetic Particle Examination in Accordance with AWS Structural Steel Welding Code

100-PT-304, Liquid Penetrant Examination In Accordance with the AWS Structural Steel Welding Code

100-UT-310, Ultrasonic Examination of Welds in Accordance with The AWS Structural Welding Code D1.1

Drawings:

APP-1210-CR-990, Rev. 4, Auxiliary Building Concrete Reinforcement Secondary Walls Elevation EL 66'-6"

APP-1210-CR-991, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Walls Elevation EL 66'-6"

APP-1210-CR-992, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Wall Sections and Details Elevation EL 66'-6"

APP-CE01-CE-002, Rev. 3, Standard Embedment Plates Deformed Wire Anchor (DWA) Type

APP-CA20-S5-26004, Rev. 5, Auxiliary Building Areas 5 & 6 Module Ca20 Submodule  
 CA20\_26 Structural Outline Horizontal Sections/ Views  
 APP-CA20-S5-25005, Rev. 5, CA20 Vertical Sections/ Views (Sheet 1)  
 APP-CA20-S5-25006, Rev. 4, CA20 Vertical Sections/ Views (Sheet 2)

Miscellaneous:

APP-1210-GEF-195, Auxiliary Building A2 Secondary (Small) Walls up to EL 82'-6" Reinforced Concrete Design, Rev. 0  
 APP-CA00-GEF-000002, Module Reinforcement Clarification, Rev. 0  
 SV3-CR01-GNR-000071, Reduced Concrete Cover at Battery Room Walls J, K, M, and P, Rev. 0  
 SV0-CA20-GEF-000055, Leak Chase Bent Plate NDE Req, Rev. 0  
 SV0-CR01-GEF-000201, Lap Splice & development lengths, Rev. 0  
 SB0-CR01-GEF-000202, Couplers on #9 and Larger U-Bars, Rev. 0  
 SV3-CR01-GEF-000089, Nuclear Island #11 Wall Dowels, Rev. 0  
 SV3-CR01-GEF-000094, Addition of Bar at 6" pipe-Q Line, Rev. 0  
 SV3-CR01-GEF-000098, #11 Horizontal Rebar Shield Bldg, Rev. 0  
 SV3-CA20-GEF-000060, Spacer frame for CA20-08A, Rev. 0  
 APP-CA00-GEF-850013, Spreader Angle NDE (SV3, SV4), Rev. 0

Work Packages:

WP# SV3-CA20-S4W-CV0437, CA20 SA4 Wall Submodule Assembly (Includes 26, 27, 28, 29, 30, 71, 72, 73)  
 SV3-CA20-S4W-CV1406, CA20 SA3 Wall Submodule Assembly (18, 19, 20, 21, 22, 23, 24, 25)  
 SV3-1200-CRW-CV-1413, Rebar for Aux Building Wall Placement (8, 9, 10, 11, 12, 13, 14, 16, 17, & 18)  
 SV3-1200-CRW-CV-1410, Rebar for Aux Building Wall Placement (5, 6, & 6)

**Section 1A09:**

Work Packages:

SV3-1220-CPW-CV0950, Unit 3 Auxiliary Building Precast Concrete Floors EL 82'-6" E&DCR  
 APP-1230-GEF-076, Put Documents on Hold due to CAP IR# 12-318-M013, Revision 0  
 APP-1240-GEF-096, Put Documents on Hold due to CAP IR# 12-318-M013, Revision 0  
 APP-1250-GEF-067, Put Documents on Hold due to CAP IR# 12-318-M013, Revision 0  
 SV3-1220-GEF-000003, Licensing Hold for IR12-318-M013, Revision 0

**Section 1A10:**

NDE Reports:

V-14-UT-311-014  
 V-14-UT-311-020  
 V-14-UT-311-013

V-13-PT-304-197  
 V-13-PT-304-229  
 V-13-PT-304-233  
 V-14-PT-304-004  
 V-14-PT-304-018  
 V-14-PT-304-003

Miscellaneous:

Certificate of Compliance 4974203, ER309L lot 1039J, dated November 30, 2011  
 Certificate of Compliance 4974203, ER309L lot 1030A, dated November 30, 2011  
 Work Package SV3-CA20-S4W-CV0310  
 Work Package SV3-CA20-S4W-CV1406  
 Welding Procedure Specification WPS5-10H.10HT70  
 Procedure Qualification Record D-2010-30  
 Work Package SV3-CA20-S4W-CV0437  
 GWS-5, "Stainless Structural Steel General Welding Specification"  
 APP-VW20-Z0-023, "Welding Specification for ASTM A240 UNS S32101 Duplex Stainless Steel Plate," Rev. 3.

**Section 1A11:**

Procedures:

NCSP 3-42-1, Reinforcing Steel Installation  
 100-MT-302, Magnetic Particle Examination in Accordance with AWS Structural Steel Welding Code  
 100-PT-304, Liquid Penetrant Examination In Accordance with the AWS Structural Steel Welding Code  
 100-UT-310, Ultrasonic Examination of Welds in Accordance with The AWS Structural Welding Code D1.1

Drawings:

APP-1210-CR-990, Rev. 4, Auxiliary Building Concrete Reinforcement Secondary Walls Elevation EL 66'-6"  
 APP-1210-CR-991, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Walls Elevation EL 66'-6"  
 APP-1210-CR-992, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Wall Sections and Details Elevation EL 66'-6"  
 APP-CE01-CE-002, Rev. 3, Standard Embedment Plates Deformed Wire Anchor (DWA) Type  
 APP-CA20-S5-26004, Rev. 5, Auxiliary Building Areas 5 & 6 Module Ca20 Submodule CA20\_26 Structural Outline Horizontal Sections/ Views  
 APP-CA20-S5-25005, Rev. 5, CA20 Vertical Sections/ Views (Sheet 1)  
 APP-CA20-S5-25006, Rev. 4, CA20 Vertical Sections/ Views (Sheet 2)

Miscellaneous:

APP-1210-GEF-195, Auxiliary Building A2 Secondary (Small) Walls up to EL 82'-6" Reinforced Concrete Design, Rev. 0

APP-CA00-GEF-000002, Module Reinforcement Clarification, Rev. 0

SV3-CR01-GNR-000071, Reduced Concrete Cover at Battery Room Walls J, K, M, and P, Rev. 0

SV0-CA20-GEF-000055, Leak Chase Bent Plate NDE Req, Rev. 0

SV0-CR01-GEF-000201, Lap Splice & development lengths, Rev. 0

SB0-CR01-GEF-000202, Couplers on #9 and Larger U-Bars, Rev. 0

SV3-CR01-GEF-000089, Nuclear Island #11 Wall Dowels, Rev. 0

SV3-CR01-GEF-000094, Addition of Bar at 6" pipe-Q Line, Rev. 0

SV3-CR01-GEF-000098, #11 Horizontal Rebar Shield Bldg, Rev. 0

SV3-CA20-GEF-000060, Spacer frame for CA20-08A, Rev. 0

APP-CA00-GEF-850013, Spreader Angle NDE (SV3, SV4), Rev. 0

Work Packages:

WP# SV3-CA20-S4W-CV0437, CA20 SA4 Wall Submodule Assembly (Includes 26, 27, 28, 29, 30, 71, 72, 73)

SV3-CA20-S4W-CV1406, CA20 SA3 Wall Submodule Assembly (18, 19, 20, 21, 22, 23, 24, 25)

SV3-1200-CRW-CV-1413, Rebar for Aux Building Wall Placement (8, 9, 10, 11, 12, 13, 14, 16, 17, & 18)

SV3-1200-CRW-CV-1410, Rebar for Aux Building Wall Placement (5, 6, & 6)

**Section 1A12:**Procedures:

NCSP 3-42-1, Reinforcing Steel Installation

100-MT-302, Magnetic Particle Examination in Accordance with AWS Structural Steel Welding Code

100-PT-304, Liquid Penetrant Examination In Accordance with the AWS Structural Steel Welding Code

100-UT-310, Ultrasonic Examination of Welds in Accordance with The AWS Structural Welding Code D1.1

Drawings:

APP-1210-CR-990, Rev. 4, Auxiliary Building Concrete Reinforcement Secondary Walls Elevation EL 66'-6"

APP-1210-CR-991, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Walls Elevation EL 66'-6"

APP-1210-CR-992, Rev. 3, Auxiliary Building Concrete Reinforcement Secondary Wall Sections and Details Elevation EL 66'-6"

APP-CE01-CE-002, Rev. 3, Standard Embedment Plates Deformed Wire Anchor (DWA) Type

APP-CA20-S5-26004, Rev. 5, Auxiliary Building Areas 5 & 6 Module Ca20 Submodule CA20\_26 Structural Outline Horizontal Sections/ Views

APP-CA20-S5-25005, Rev. 5, CA20 Vertical Sections/ Views (Sheet 1)

APP-CA20-S5-25006, Rev. 4, CA20 Vertical Sections/ Views (Sheet 2)

Miscellaneous:

APP-1210-GEF-195, Auxiliary Building A2 Secondary (Small) Walls up to EL 82'-6" Reinforced Concrete Design, Rev. 0

APP-CA00-GEF-000002, Module Reinforcement Clarification, Rev. 0

SV3-CR01-GNR-000071, Reduced Concrete Cover at Battery Room Walls J, K, M, and P, Rev. 0

SV0-CA20-GEF-000055, Leak Chase Bent Plate NDE Req, Rev. 0

SV0-CR01-GEF-000201, Lap Splice & development lengths, Rev. 0

SB0-CR01-GEF-000202, Couplers on #9 and Larger U-Bars, Rev. 0

SV3-CR01-GEF-000089, Nuclear Island #11 Wall Dowels, Rev. 0

SV3-CR01-GEF-000094, Addition of Bar at 6" pipe-Q Line, Rev. 0

SV3-CR01-GEF-000098, #11 Horizontal Rebar Shield Bldg, Rev. 0

SV3-CA20-GEF-000060, Spacer frame for CA20-08A, Rev. 0

APP-CA00-GEF-850013, Spreader Angle NDE (SV3, SV4), Rev. 0

Work Packages:

WP# SV3-CA20-S4W-CV0437, CA20 SA4 Wall Submodule Assembly (Includes 26, 27, 28, 29, 30, 71, 72, 73)

SV3-CA20-S4W-CV1406, CA20 SA3 Wall Submodule Assembly (18, 19, 20, 21, 22, 23, 24, 25)

SV3-1200-CRW-CV-1413, Rebar for Aux Building Wall Placement (8, 9, 10, 11, 12, 13, 14, 16, 17, & 18)

SV3-1200-CRW-CV-1410, Rebar for Aux Building Wall Placement (5, 6, & 6)

**Section 1A13:**

SV3-1000-CCK-CV1238, "Nuclear Island 3 Basemat Thickness," Rev. 01

SV3-1000-CCK-CV1194, "Telltale Locations," Rev. 01

**Section 1A14:**

SV3-1000-CCK-CV1238, "Nuclear Island 3 Basemat Thickness," Rev. 01

SV3-1000-CCK-CV1194, "Telltale Locations," Rev. 01

**Section 1A15:**

SV0-0500-XCS-800001, "Program for Monitoring Settlements of Power Block Structures", dated 3/15/12

CSI 3-24-3, "Field Surveying", dated 2/1/13

NCSP 3-24-2, Field Surveying", Rev. 2, dated 10/3/12

SV3-1000-ITR-800003, "ITAAC Determination Report for Vogtle Unit 3 ITAAC 3.3.00.02f", Release A

SV3-1000-CCK-CV1196, "Nuclear Island Dimensions", dated 7/1/13  
 SV3-1000-CCK-CV1238, "Nuclear Island 3 Basemat Thickness", dated 7/2/13  
 SV3-1000-CCK-CV1194, "Telltale Locations", dated 11/25/13

#### **Section 1A16:**

CMTRs: G24985-006CM, 6163-1, G24303-040CM, 5994-3, 6184-8  
 NCRs: U4-021, U4-022  
 N-2 Data Report Plate Assembly B4-A5-5  
 Receipt inspection Reports: U4-091, U4-081B, U4-121

#### **Section 1A17:**

IHI CMTRs: KN1467, RINJQ-225-5-4, RINJQ-225-5-10  
 Welder qualification records for IHI welder ID#s: 4925, 1881, 2565  
 IHI Welding Procedures: I-11R2G Rev. 3, IT-1121G Rev. 0, IT-1118G Rev. 1  
 IHI NDE Records: MT-003-AP-WB4-P40~P42-N, RT-003-WB4-A5-A SR, RT-003-WB4-P40, 41, 42-F

#### **Section 1A18:**

CMTRs: KN1467, RINJQ-225-5-4, RINJQ-225-10-5, 5994-3, 6184-8, G24985-006CM, 6163-1

#### **Section 1A19:**

##### Drawings

APP-1010-CR-104, Nuclear Island Basemat Reinforcement area Below Containment Vessel Stud Pattern and Details, Rev. 5  
 APP-1010-CR-191, Nuclear Island Basemat Reinforcement area Below Containment Vessel layer 9 Reinforcement Plan, Rev. 4  
 APP-1010-CR-192, Nuclear Island Basemat Reinforcement area Below Containment Vessel Layer 9 Reinforcement Details, Rev. 4  
 APP-1010-CR-201, Nuclear Island Basemat Reinforcement area Below Containment Vessel Layer 10a, 10b, 10c, and 10d Key Plan, Rev. 4  
 APP-1010-CR-101, Nuclear Island Basemat Reinforcement area Below Containment Vessel Installation Sequence, Rev. 4  
 APP-1010-CR-102, Nuclear Island Basemat Reinforcement area Below Containment Vessel Installation Sequence, Rev. 5  
 APP-1010-CR-151, Nuclear Island Basemat Reinforcement area Below Containment Vessel Layer 5 Reinforcement Plan, Rev. 3  
 APP-1010-CR-152, Nuclear Island Basemat Reinforcement area Below Containment Vessel Layer 5 Reinforcement Details, Rev. 3  
 APP-1010-CR-161, Nuclear Island Basemat Reinforcement area Below Containment Vessel Layer 6 Reinforcement Plan, Rev. 4

APP- 1010-CR-162, Nuclear Island Basemat Reinforcement area Below Containment Vessel  
 Layer 6 Reinforcement Details, Rev. 4  
 APP-1010-CR-172, Nuclear Island Basemat Reinforcement area Below Containment Vessel  
 Layer 7 Southwest Quadrant, Rev. 4  
 APP-1010-CR-173, Nuclear Island Basemat Reinforcement area Below Containment Vessel  
 Layer 7 Southeast Quadrant, Rev. 4  
 APP-1010-CR-174, Nuclear Island Basemat Reinforcement area Below Containment Vessel  
 Layer 7 Northeast Quadrant, Rev. 4  
 APP-1010-CR-175, Nuclear Island Basemat Reinforcement area Below Containment Vessel  
 Layer 7 Northwest Quadrant, Rev. 4

#### Quality Assurance Inspection Reports

IR S511-001-14-0003, Mechanical Rebar Splices-Threaded Lenton Coupler Splices/Weldable  
 Couplers  
 IR S511-001-14-0004, Mechanical Rebar Splices-Threaded Lenton Coupler Splices/Weldable  
 Couplers  
 IR S511-001-14-0005, Mechanical Rebar Splices-Threaded Lenton Coupler Splices/Weldable  
 Couplers  
 IR S511-001-14-0007, Mechanical Rebar Splices-Threaded Lenton Coupler Splices/Weldable  
 Couplers  
 IR S511-001-14-0010, Mechanical Rebar Splices-Threaded Lenton Coupler Splices/Weldable  
 Couplers  
 IR S511-001-14-0011, Mechanical Rebar Splices-Threaded Lenton Coupler Splices/Weldable  
 Couplers  
 IR C112-002-14-0008, Pre-Placement-Nuclear Island Concrete

#### **Section 1A20:**

SV3-1000-CCK-CV2206, "Unit 4 Nuclear Island Telltale Locations," Rev. 01

#### **Section 1A21:**

SV3-1000-CCK-CV2206, "Unit 4 Nuclear Island Telltale Locations," Rev. 01

#### **Section 1P01.1:**

Westinghouse Document No: APP-GW-GAP-140; AP1000 Licensing Applicability Determination  
 and 10 CFR 50.59/10 CFR 52 Appendix D Section VIII Screening.  
 Southern Company Document No: ND-LI-VNP-002 Version 7.0; Applicability Determination and  
 50.59 / Departure Screening for VEGP 3&4.  
 Southern Company Document No: ND-LI-VNP-003 Version 5.0; 50.59 / Departure Evaluations  
 for Vogtle 3&4.  
 Southern Company Document No: ND-LI-VNP-007 Version 2.0; Licensing Document Change  
 Requests for VEGP Units 3&4.

**Section 1P01.2:**

APP-GW-GAP-420, "Engineering and Design Coordination Report," Revision 8  
 SV0-CC01-GEF-000155, "Serviceability of Conc. and Grout," Revision 0  
 SV0-CC01-GEF-000156, "Water in Crevices," Revision 0  
 SV0-CC01-GEF-000178, "Conduit Clearance to Rebar," Revision 0  
 SV0-CC01-GEF-000179, "Requirements When Placing with SCC," Revision 0  
 SV0-CC01-GEF-000185, "Placement of Concrete Outside of the CVBH," Revision 0  
 APP-1200-GEF-021, "Chem Lab Pipe Routing Clarification," Revision 0  
 APP-1200-GEF-213, "Structural Steel Connections Modification: Aux Bldg 1F-type Seated Beams," Revision 0  
 APP-1200-GEF-297, "Auxiliary Building EL 82'-6" and EL 92'-6" Steel Connections to Shield Building Wall," Revision 0  
 APP-1200-GEF-301, "Structural Steel Connection Modification: Aux Bldg Seated Beams at CA20 EL 82'-6", EL 92'-6" & EL 107'-2", Revision 0  
 APP-1200-GEF-313, "Standard Openings Design Release," Revision 0  
 APP-1200-GEF-335, "Auxiliary Building @ Elev. 100'-0" Area 1 Stair S02 Framing Constructability Adjustment," Revision 0  
 APP-1200-GEF-362, "Update to Precast Concrete Panel General Notes," Revision 0  
 APP-1223-GEF-040, "Auxiliary Building Precast Panel U-Bar Size Clarification," Revision 0  
 APP-CC01-GEF-004, "Clarification of Mechanical Splice Stagger Requirements," Revision 0  
 APP-CE01-GEF-007, "FNC: Modification to Bent Headed Anchor Details," Revision 0  
 APP-CE01-GEF-025, "Clarification on Tolerances for Headed Anchor Type and Deformed Wire Type Embedment Plates," Revision 0  
 APP-CE01-GEF-032, "DWA Diameter Reduction and Addition of Hook Bar Details," Revision

**Section 1P02.1:**

430000-CMTR-13-000233, Certified Test Report for Backing Bar (Heat# VE20750610), dated 2/18/2013  
 430000-SCON-12-000194, Certificate of Conformance (Heat# VE20750610), dated 12/19/2012  
 430000-MTR-12-000581, Mill Test Certificate (Heat# VE20750610), dated 11/30/2012  
 430000-RIR-13-000964, Receipt Inspection Report (Heat# VE20750610), dated 1/21/2013  
 430000-CMTR-12-000785, Certified Material Test Report (Heat# VE20750610), dated 2/18/2013  
 430000-QCIR-13-014052, Inspection Report (Heat# VE20750610), dated 6/25/2013  
 430000-CMTR-13-000551, Certified Material Test Report (Heat# 2506321), dated 10/16/2012  
 430000-CMTR-13-000553, Certified Material Test Report (Heat# 2506321), dated 10/16/2012  
 430000-CMTR-11-000154, Material Test Report (Heat# 1016780 and 1016781), dated 12/7/2011  
 430000-CMTR-10-000316, Certified Material Test Report (Heat# 402036), dated 12/10/2010  
 J132175-MRR-13-003055, Material Receiving Report for PO 132175, dated 11/23/2013

**Section 1P02.2:**

Surveillance number S-132175-2014-019, "Review of QC Routine Inspections for Supporting CAR 2013-2017";

Surveillance report number S-132175-2014-017, "Issue, Control, Use and Return of M&TE";

**Section 1P03:**Drawings

APP-1010-CR-191, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 9 Reinforcement Plan, Rev. 4

APP-1010-CR-192, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 9 Reinforcement Details, Rev. 4

APP-1010-CR-201, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 10a, 10b, 10c, and 10d Key Plan, Rev. 4

APP-1010-CR-202, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 10 South-West Quadrant, Rev. 5

APP-1010-CR-203, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 10 South-East Quadrant, Rev. 5

APP-1010-CR-204, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel layer 10 North-East Quadrant, Rev. 5

APP-1010-CR-205, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 10 North-West Quadrant, Rev. 5

APP-1010-CR-206, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 10 Reinforcement Details, Rev. 5

APP-1010-CR-101, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Installation Sequence, Rev. 4

APP-1010-CR-103, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Section A-A, Rev. 5

APP-1010-CR-141, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 4 Reinforcement Plan, Rev. 3

APP-1010-CR-142, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 4 Reinforcement Details, Rev. 3

APP-1010-CR-151, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 5 Reinforcement Plan, Rev. 3

APP-1010-CR-152, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 5 Reinforcement Details, Rev. 3

APP-1010-CR-161, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 6 Reinforcement Plan, Rev. 4

APP-1010-CR-162, Nuclear Island Basemat Concrete Reinforcement Area Below Containment Vessel Layer 6 Reinforcement Details, Rev. 4

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## LIST OF ACRONYMS

ADAMS	Agencywide Documents Access & Management System
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AP1000	Advanced Passive Pressurized with Water Reactors
CAP	Corrective Action Program
CAQ	Conditions Adverse to Quality
CB&I	Chicago Bridge and Iron
CCA	Construction Cross-Cutting Aspect
CFR	Code of Federal Regulations
CMTR	Certified Material Test Reports
CVBH	Containment Vessel Bottom Head
DCD	Design Control Document
E&DCR	Engineering and Design Coordination Report
EPC	Engineering Procurement and Construction
IP	Inspection Procedure
IR	Inspection Report
IMC	Inspection Manual Chapter
ITAAC	Inspections, Tests, Analysis, and Inspection Criteria
LDCR	Licensing Document Change Request
M&TE	Measuring and Test Equipment
MT	Magnetic Particle Testing
NCV	Non Cited Violation
NDE	Nondestructive Testing
N&D	Non Conformance & Disposition
NI	Nuclear Island
NRC	Nuclear Regulatory Commission
NRMCA	National Ready Mix Concrete Association
UT	Ultrasonic Testing
QA	Quality Assurance
QAD	Quality Assurance Directive
QAP	Quality Assurance Program
QC	Quality Control
QS	Quality Standard
RHR	Residual Heat Removal
SCC	Self Consolidating Concrete
SDP	Significance Determination Process
SNC	Southern Nuclear Operating Company
VEGP	Vogtle Electric Generating Plant
WEC	Westinghouse Electric Company, LLC