



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

January 24, 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 05200025/2013-005 and 05200026/2013-005**

Dear Mr. Ivey:

On December 31, 2013, 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 with Mr. Brian Whitley, Southern Nuclear Company Regulatory Affairs Director, and other members of your staff on January 9, 2014.

The inspection examined 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.

No findings were identified during this inspection.

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).

B. Ivey

2

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.: 5200025, 5200026

License Nos.: NPF-91, NPF-92

Enclosure: Inspection Report 05200025/2013005
and 05200026/2013005
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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.: 5200025, 5200026
License Nos.: NPF-91, NPF-92

Enclosure: Inspection Report 05200025/2013005
and 05200026/2013005
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

■ PUBLICLY AVAILABLE □ NON-PUBLICLY AVAILABLE □ SENSITIVE ■ NON-SENSITIVE
ADAMS: ■ Yes ACCESSION NUMBER: ML14024A594 ■ SUNSI REVIEW COMPLETE ■ FORM 665 ATTACHED

OFFICE	RII: DCP	RII: DCI	RII: DCP	RII: DCP	RII: DCI	RII: DCI
SIGNATURE	Via CIPIMS	Via CIPIMS	Via CIPIMS	Via CIPIMS	Via CIPIMS	Via CIPIMS
NAME	C. Abbott	B. Davis	J. Fuller	C. Huffman	S. Smith	J. Vasquez
DATE	01/23/2014	01/23/2014	01/23/2014	01/23/2014	01/23/2014	01/23/2014
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\CCI\DCP\CPB4\PROJECT VOGTLE\INSPECTION
REPORTS\INTEGRATED INSPECTION REPORTS\2013\2013-005\INSPECTION
REPORT_DRAFT_2013005REV2.DOCX

cc w/encl:

Resident Manager
Oglethorpe Power Corporation
Alvin W. Vogtle Road
7821 River Road
Waynesboro, GA 30830

Rita Kilpatrick
250 Arizona Ave
Atlanta, GA 30307

Office of the Attorney General
40 Capital Square SW
Atlanta, GA 30334

Lucious Abram
Commissioner-
Burkes County Commissioner
P.O. Box 1626
Waynesboro, GA 30830

Anne F. Appleby
Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, GA 30084

Ms. Michele Boyd
Legislative Director
Energy Program
Public Citizens Critical Mass Energy
And Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Lisa Higdon
Southern Nuclear Op. Co
Document Control Coordinator
42 Inverness Center Parkway
Attn: B236
Birmingham, AL 35201

Stephen E. Kuczynski
Chairman, President and CEO
Southern Nuclear
P.O. Box 1295
Birmingham, AL 35201

Mr. Reece McAlister
Executive Secretary
Georgia Public Service Commission
Atlanta, GA 30334

Mr. Joseph A. (Buzz) Miller
Executive Vice President
Southern Nuclear Operating Company
241 Ralph McGill Blvd
BIN 10240
Atlanta, GA 30308-3374

Resident Inspector
Vogtle Plant
8805 River Road
Waynesboro, GA 30830

Director
Consumer's Utility
Counsel Division
Governor's Office of Consumer Affairs
2 Martin Luther King, Jr. Drive
Plaza Level East, Suite 356
Atlanta, GA 30334-4600

County Commissioner
Office of the Commissioner
Burke County Commission
Waynesboro, GA 30830

Mr. James C. Hardeman
Environmental Radiation Program Manager
Environmental Protection Division
Georgia Dept. of Natural Resources
4220 International Pkwy, Suite 100
Atlanta, GA 30354-3906

Elaine Sikes
Burke County Library
130 Highway 24 South
Waynesboro, GA 30830

Mr. Jerry Smith
Commissioner
District 8
Augusta-Richmond County Commission
1332 Brown Road
Hephzibah, GA 30815

Gene Stilp
1550 Fishing Creek Valley Road
Harrisburg, PA 17112

Mr. Robert Sweeney
IBEX ESI
4641 Montgomery Avenue
Suite 350
Bethesda, MD 20814

George B. Taylor, Jr.
2100 East Exchange Pl.
Atlanta, GA 30084-5336

Email

agaughtm@southernco.com (Amy Aughtman)
agbaker@southernco.com (Ann Baker)
awc@nei.org (Anne W. Cottingham)
bhwhitle@southernco.com (Brian Whitley)
Bill.Jacobs@gdsassociates.com (Bill Jacobs)
blivey@southernco.com (Pete Ivey)
bob.masse@opc.com (Resident Manager)
bwwaites@southernco.com (Brandon Waites)
chmahan@southernco.com (Howard Mahan)
crpierce@southernco.com (C.R. Pierce)
csguinn@southernco.com (Candance Guinn)
cwaltman@roe.com (C. Waltman)
dahjones@southernco.com (David Jones)
danawill@southernco.com (Dana Williams)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
david.siefken@hq.doe.gov (David Siefken)
delongra@westinghouse.com (Rich DeLong)
dgbost@southernco.com (Danny Bost)
dlfulton@southernco.com (Dale Fulton)
drculver@southernco.com (Randy Culver)
ed.burns@earthlink.net (Ed Burns)
edavis@pegasusgroup.us (Ed David)
erg-xl@cox.net (Eddie R. Grant)
G2NDRMDC@southernco.com (SNC Document Control)
james1.beard@ge.com (James Beard)
jamiller@southernco.com (Buzz Miller)
jbtomase@southernco.com (Janice Tomasello)
jenmorri@southernco.com (Jennifer Buettner)
jhall@southernco.com (Jennifer Hall)
jim@ncwarn.org (Jim Warren)
jmgidden@southernco.com (John Giddens)
Joseph_Hegner@dom.com (Joseph Hegner)
jranalli@meagpower.org (Jerry Ranalli)
jrjohnso@southernco.com (Randy Johnson)
jtdavis@southernco.com (Jim Davis)
jtgasser@southernco.com (Jeff Gasser)
karen.patterson@ttnus.com (Karen Patterson)
karlg@att.net (Karl Gross)
kim.haynes@opc.com (Kim Haynes)
kmseiber@southernco.com (Kristin Seibert)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
lchandler@morganlewis.com (Lawrence J. Chandler)
ldperry@southernco.com (Leigh D. Perry)
maria.webb@pillsburylaw.com (Maria Webb)
mark.beaumont@wsms.com (Mark Beaumont)
markus.popa@hq.doe.gov (Markus Popa)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)
mcintyba@westinghouse.com (Brian McIntyre)

mdrauckh@southernco.com (Mark Rauckhorst)
media@nei.org (Scott Peterson)
mike.price@opc.com (M.W. Price)
MSF@nei.org (Marvin Fertel)
nirsnet@nirs.org (Michael Mariotte)
nihender@southernco.com (Nancy Henderson)
Nuclaw@mindspring.com (Robert Temple)
patriciaL.campbell@ge.com (Patricia L. Campbell)
Paul@beyondnuclear.org (Paul Gunter)
pbessette@morganlewis.com (Paul Bessette)
randall@nexusamllc.com (Randall Li)
rhenry@ap.org (Ray Henry)
RJB@NEI.org (Russell Bell)
russpa@westinghouse.com (Paul Russ)
sabinski@suddenlink.net (Steve A. Bennett)
sblanton@balch.com (Stanford Blanton)
sfrantz@morganlewis.com (Stephen P. Frantz)
sjackson@meagpower.org (Steven Jackson)
skauffman@mpr.com (Storm Kauffman)
skuczyns@southernco.com (Steve Kuczynski)
sroetger@psc.state.ga.us (Steve Roetger)
stephan.moen@ge.com (Stephan Moen)
taterrel@southernco.com (Todd Terrell)
tlubnow@mpr.com (Tom Lubnow)
Tom.Bilik@nrc.gov (Thomas Bilik)
TomClements329@cs.com (Tom Clements)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
Wanda.K.Marshall@dom.com (Wanda K. Marshall)
wasparkm@southernco.com (Wesley A. Sparkman)
whelmore@aol.com (Bill Elmore)

Letter to B. L. Ivey from Michael E. Ernstes dated January 24, 2014

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4 - NRC
INTEGRATED INSPECTION REPORTS 05200025/2013-005 and
05200026/2013-005

Distribution w/encl:

Region II Regional Coordinator, OEDO (D. Huyck)

M. Brown, NRO

T. Kozak, NRO

L. Burkhart, NRO

B. Anderson, NRO

R. Joshi, NRO

D. Jaffe, NRO

J. Munday, RII

J. Yerokun, RII

M. Ernstes, RII

R. Musser, RII

J. Heisserer, RII

A. Masters, RII

S. Freeman, RII

S. Vias, RII

G. Khouri, RII

P. Heher, RII

J. Kent, RII

J. Fuller, RII

C. Abbott, RII

C. Huffman, RII

ConE_Resource@nrc.gov

NRO_cROP_Resource@nrc.gov

PUBLIC

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

Docket Numbers: 5200025
5200026

License Numbers: NPF-91
NPF-92

Report Numbers: 05200025/2013005
05200026/2013005

Licensee: Southern Nuclear Operating Company, Inc.

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

Location: Waynesboro, GA

Inspection Dates: October 1, 2013 through December 31, 2013

Inspectors: C. Abbott, Resident Inspector, DCP
B. Davis, Senior Construction Inspector, DCI
J. Fuller, Senior Resident Inspector, DCP
C. Huffman, Resident Inspector, DCP
S. Smith, Senior Construction Inspector, DCI
J. Vasquez, Construction Inspector, DCI

Approved by: M. Ernstes, Chief
Construction Projects Branch 4
Division of Construction Projects

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05200025/2013005, 05200026/2013005; 10/01/2013 through 12/31/2013; 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 Acceptance Criteria (ITAAC) inspections by regional inspectors. The Nuclear Regulatory Commission's (NRC's) program for overseeing the construction of commercial nuclear power reactors is described in Inspection Manual Chapter 2506, "Construction Reactor Oversight Process General Guidance and Basis Document."

A. NRC-Identified and Self Revealed Findings

No findings were identified.

B. Licensee-Identified Violations

No findings were identified.

REPORT DETAILS

Summary of Plant Construction Status

During this inspection period the licensee placed the first structural modules in the unit 3 containment vessel bottom Head. The licensee also continued the construction of the auxiliary building walls in the nuclear island and the auxiliary building module (CAZO) in Modular Assembly Building (MAB). For unit 4, the nuclear island basemat was poured and nuclear island construction was initiated. Containment vessel fabrication continued for both units.

1. CONSTRUCTION REACTOR SAFETY

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

1A01 (Unit 3) ITAAC Number 760 / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 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 (IP)/sections to perform this inspection:

- 65001.A-02.03 - Independent Assessment/Measurement Inspection
- 65001.A-02.04 - Review As-built Deviations/Nonconformance
- 65001.B-02.05 - Inspection
- 65001.B-02.06 - Records

The inspectors performed a field inspection of construction activities associated with the Unit 3 east reactor vessel cavity wall N-S parallel with Column Line N. The inspectors reviewed the completed weld records and in-process work package (SV3-CA04-S5W-CV1549, "Fabrication of Submodule CA04-04," Revision 0) for the following field welds associated with the Vogtle Unit 3 CA04-04 submodule, which is part of the CA04 structural module that makes up the reactor vessel cavity and is considered a containment internal structure: CV2046-30-0011 and CV2046-30-0012. The inspectors reviewed these weld records to determine whether:

- the welding activity was properly documented in the work traveler;
- records provided adequate traceability to all aspects of the welding activity, including traceability to the welder who performed the work;
- the records adequately documented the following attributes: reference to procedure and welder qualifications, inspector qualifications, weld material certifications and receipt IRs, weld data or process records (travelers), weld maps, weld inspection records, nondestructive examination (NDE) records;
- the records were appropriately retained and stored in accordance with quality assurance (QA) program requirement;
- required inspections were identified in the traveler withhold points, as appropriate; and
- accepted, rejected, and repaired items were documented in written reports.

The inspectors reviewed these as-built records to determine whether the records reflected the as-built structure and furnished adequate evidence that the quality and technical requirement were met.

The inspectors performed an independent visual inspection of welds CV2046-30-0011 and CV2046-30-0012, to determine whether the final welds satisfied the requirements of Table 6.1, "Visual Inspection Acceptance Criteria," of American Welding Society (AWS) D1.1:2000. The inspectors also verified that the final weld profile met the requirements of section 5.24.4, "Groove or Butt Welds," of AWS D1.1:2000.

The inspectors reviewed the certified material test reports (CMTR) for the base materials welded together for welds CV2046-30-0011 and CV2046-30-0012 for conformance to the applicable American Society of Testing and Materials (ASTM) specification (ASTM A36-08, "Standard Specification for Carbon Structural Steel"). Specifically, the inspectors verified that these base materials met the chemical and physical (tensile, yield, and elongation) requirements specified.

The inspectors reviewed a sample of nonconformance and disposition (N&D) reports to determine whether these licensee-identified deviations from technical requirements were properly evaluated and corrected, if applicable. Specifically, the inspectors reviewed the following N&Ds:

- SV3-CA04-GNR-000004, "Gouges in Base Metal of CA04," Revision 0;
- SV3-CA04-GNR-000013, "CA04 WT Beam CJP Weld Inaccessible for 100% Inspection," Revision 0;

The inspectors also reviewed the certificates of qualification for two Chicago Bridge and Iron (CB&I) quality control (QC) inspectors who performed visual inspection of CA04 welds. Specifically, the inspectors reviewed the certification of qualification records to verify that these two inspectors were approved to perform activity number 561 - structural weld inspection.

b. Findings

No findings were identified.

1A02 (Unit 3) ITAAC Number 760 / Family 01F

a. Inspection Scope

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

- 65001.01 - Inspection of ITAAC-Related Foundations & Buildings
- 65001.01-02.05 - Steel Structures
- 65001.B-02.01 - Program and Procedures Review
- 65001.B-02.04 - Production Controls
- 65001.F - Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.03 - Observation of Fabrication Activities

The CA04 structure forms an octagonal cavity for the reactor vessel and is created by assembling 4 wall panels. The inspectors observed in-process welding and completed welds for submodule CA04 vertical seam field welds. The inspectors examined fit-up of vertical seam field welds for submodule CA04 to determine whether the root opening and profile were completed in accordance with WPS2-1.1M70, "GMAW of AWS D1.1, Group I Carbon Steel Materials." The inspectors also performed an independent visual examination of the following wall panel vertical seam welds from elevation 83' 0" to 98' 0" to ensure they met the requirements of AWS D1.1, 2000:

- West reactor vessel cavity wall N-S wall parallel with column line N;
- North reactor vessel cavity wall E-W wall parallel with column line 7; and
- East reactor vessel cavity wall N-S wall parallel with column line N.

The inspectors observed in process welding to determine whether the requirements of the applicable welding procedure and AWS D1.1, 2000 were met. Specifically, the inspectors verified the following:

- the welding procedure was readily available;
- the welding parameters such as voltage, amperage, wire speed and cover gas flow rate were in accordance with the procedure;
- the welding filler metal classification and size met the procedure;
- the weld joint was sufficiently protected from wind, rain, or other inclement conditions; and
- the weld joint was sufficiently clean and free of harmful contaminants such as grease and paint.

b. Findings

No findings were identified.

1A03 (Unit 3) ITAAC Number 762 / Family 01Fa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 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 IP/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.A - As-Built Attributes for SSCs associated with ITAAC
- 65001.A-02.01 - Observation of in-Process Installation Activities
- 65001.A-02.04 - Review As-built Deviations/Nonconformance
- 65001.F-02.01 -Design Document Review
- 65001.F-02.02 - Fabrication Records Review

The inspectors performed a direct inspection of the vertical and horizontal wall reinforcement along column line L located on the north-end of the non-radiologically controlled portion of the auxiliary building. During this inspection, the inspectors reviewed Westinghouse Electric Company (WEC) and CB&I design documents and procedures to determine whether construction related activities were performed in accordance with the following:

- SV3-CC01-Z0-031, Safety Related Placing concrete and Reinforcing Steel, Westinghouse Seismic Category I, Safety class C "NUCLEAR SAFETY", Revision2;
- NCSP-3-42, Reinforcing Steel Installation, Revision 1;
- CSI ICN-3-42-3-A, Reinforcing Steel Installation, Revision 3.

The inspectors also reviewed WEC issued for construction design drawings, to determine whether field installation of reinforcing steel was performed in accordance with the following:

- SV3-1200-CR913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Elevations," Revision 7;
- SV3-1210-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Sections & Details EL 66'-6"," Revision 3.

The inspectors performed a field observation of construction activities and utilized the aforementioned drawings to determine whether the size, spacing, as well as grade of material was installed per the WEC design specification and design drawings. The inspectors also independently measured horizontal lap splices as well as clear cover dimensions to determine whether field conditions conformed to ACI 349-01 requirements. While in the construction work area, the inspectors also verified whether the latest approved-for-construction procedures, drawings, manuals, and other work instructions were readily available at the installation area, whether these documents were legible and appropriately maintained.

b. Findings

No findings were identified.

1A04 (Unit 3) ITAAC Number 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:

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 IP/sections to perform this inspection:

- 65001.01 - Inspection of ITAAC-Related Foundations & Buildings
- 65001.01-02.05 - Steel Structures
- 65001.B-02.01 - Program and Procedures Review
- 65001.B-02.05 - Inspection
- 65001.B-02.06 - Records
- 65001.F - Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.01 - Design Document Review

The inspectors performed a visual inspection of a sample of safety related, seismic category I structural submodules associated with module CA20. The inspectors compared these as-built submodules to their respective design drawings, which are listed in the documents reviewed section of this report, to independently determine whether these submodules conformed to the approved design, i.e. whether any structural deviations were present that had not been dispositioned by the licensee. Specifically, the inspectors examined the following submodules: CA20-18, CA20-19, CA20-20, CA20-22, CA20-23 and CA20-26. These submodules comprise portions of the following CA20 areas:

- Column line 2 wall from column line K-2 to L-2 from elevation 66' 6" to 135' 3";
- Column line 3 wall from column line K-2 to L-2 from elevation 66' 6" to 92' 8 ½";
- Column line K-2 wall from column line 2 to 4 from elevation 66' 6" to 135' 3"; and
- Column line L-2 wall from column line 2 to 4 from elevation 66' 6" to 135' 3".

The inspectors verified that a sample of submodule fabrication and welding met the applicable code requirements (American Institute of Steel Construction [AISC] N690, "American National Standard Specification for the Design, Fabrication, and Erection of Steel Safety-related Structures for Nuclear Facilities," 1994 edition; AWS D1.1, "Structural Welding Code - Steel," 2000 edition; and AWS D1.6, "Structural Welding Code - Stainless Steel," 1999 edition) and the applicable design drawings and general notes (see Documents Reviewed Section). Specifically, the inspectors performed visual observations and independently measured a sample of structural welds to determine whether:

- as-fabricated condition matched the applicable design drawings with respect to layout and dimensions;
- an adequate marking system was used to maintain the identity of material from storage to installation;
- nonconforming materials were adequately identified and segregated;
- structural steel was protected from corrosion caused by exposure to weather; and
- shear studs, faceplates, steel channel, angle iron, rebar, and mechanical threaded couplers were installed in accordance with drawings.

b. Findings

No findings were identified.

1A05 (Unit 3) ITAAC Number 814 / Family 01Aa. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.09:

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
9. The reactor cavity sump has a minimum concrete thickness as shown in Table 3.3-5 between the bottom of the sump and the steel containment.	An inspection of the as-built containment building internal structures will be performed.	A report exists and concludes that the reactor cavity sump has a minimum concrete thickness as shown on Table 3.3-5 between the bottom of the sump and the steel containment.

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

- 65001.01-02.01 - Procedures
- 65001.A-02.02 - Installation Records Review

The inspectors observed the survey on the installed containment sump (KQ11) to determine whether the distance from the bottom of the containment sump to the top surface of the embedded containment shell met the requirements established in Appendix C, Table 3.3-5, "Key Dimensions of Nuclear Island Building Features" of the Vogtle Unit 3 COL. Survey measurements were taken before and after concrete placement to ensure the KQ11 sump remained in the required position. The inspectors reviewed engineering and design coordination report (E&DCR) APP-KQ11-GEF-022, "Clarification of Measuring Points for Bottom of Reactor Containment Sump (KQ11)," Revision 0 to determine whether measurements were taken at the required locations. The inspectors reviewed measurement documentation provided in SV3-KQ11-KQK-ME2245, "KQ11 Containment Sump (MT-02) As Build & ITAACs 2.3.10.01, 3.3.00.02F & 3.3.00.09," to verify that key dimensions were recorded and matched the actual construction.

b. Findings

No findings were identified.

1A06 (Unit 4) ITAAC Number 93 / Family 06Ba. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 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 IP/sections to perform this inspection:

- 65001.11-02.05 - Nondestructive Examination
- 65001.B-02.05 - Inspection
- 65001.B-02.06 - Records

The inspectors reviewed a sample of radiographic testing (RT) film for completed weld number U4-S1-A2/A3, which was associated with the first course (S1) of the lower ring of the Vogtle Unit 4 containment vessel. The inspectors reviewed this film to determine whether the completed welds met the acceptance standards specified by Subsection NE-5320, "Radiographic Acceptance Standards," of ASME Section III, Article NE-5000, "Examination." The inspectors also reviewed RT Report number U4-074 to determine if the weld and RT record met the requirements of CB&I RT procedure CMS-830-15-PR-45154, "Radiographic Examination ASME Section III, Division 1 – Subsection NE," Revision 1.

The inspectors reviewed a sample of RT film for completed weld numbers F14/A15 and F14/A5, which were associated with the lower equipment hatch (H02) insert plate for the Vogtle Unit 4 containment vessel. The inspectors reviewed this film to determine whether the completed welds met the acceptance standards specified by Subsection NE-5320, "Radiographic Acceptance Standards," of ASME Section III, Article NE-5000, "Examination." The inspectors also reviewed RT Report numbers U4-078 and U4-077 to determine if the weld and RT record met the requirements of CB&I RT procedure CMS-830-15-PR-45154, "Radiographic Examination ASME Section III, Division 1 – Subsection NE," Revision 1.

The inspectors reviewed a sample of RT film for completed weld number WB4-A4-A, which was associated with the lower personnel airlock (H03) insert plate for the Vogtle Unit 4 containment vessel. The inspectors reviewed this film to determine whether the completed welds met the acceptance standards specified by Subsection NE-5320, "Radiographic Acceptance Standards," of ASME Section III, Article NE-5000, "Examination."

b. Findings

No findings were identified.

1A07 (Unit 4) ITAAC Number 761 / Family 01Fa. Inspection Scope

During the weeks of November 12, 2013 and November 21, 2013, the inspectors performed a direct inspection of construction activities associated with ITAAC Number 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 IP/sections to perform this inspection:

- 65001.01 - Inspection of ITAAC-Related Foundations & Buildings
- 65001.01-02.01 - Procedures
- 65001.01-02.03 - Key Site Parameters
- 65001.02 - Inspection of ITAAC-Related Installation of Structural Concrete
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.02 - Laboratory Testing
- 65001.02-02.03 - Special Considerations
- 65001.02-02.06 - Record Review
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.02-02.09 - Concrete Quality Process Problems
- 65001.A-02.01 - Observation of in-Process Installation Activities
- 65001.A-02.02 - Installation Records Review
- 65001.A-02.03 - Independent Assessment/Measurement Inspection
- 65001.A-02.04 - Review As-built Deviations/Nonconformance
- 65001.C-A1.02 - Structural Concrete
- 65001.F - Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.01 - Design Document Review
- 65001.F-02.02 - Fabrication Records Review
- 65001.F-02.03 - Observation of Fabrication Activities

- 65001.F-02.04 - General QA Review

The inspectors performed a field inspection of construction activities associated with this ITAAC for the Unit 4 nuclear island basemat from elevation 60'-6" to 66'-6" within the area of the shield building. The inspectors applied the guidance in IP 65001.01, "Inspection of ITAAC-Related Foundations & Buildings," IP 65001.02, "Inspection of ITAAC-Related Installation of Structural Concrete," IP 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components (SSCs) Associated with ITAAC," and IP 65001.F, "Inspection of the ITAAC-Related Design and Fabrication Requirements." The inspectors conducted inspections of concrete and reinforcing steel placement, 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 if:

- 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 QC 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 and reinforcing steel for the proposed Unit 4 nuclear island structures. Specifically, the inspectors observed placement of the shield building area concrete and final QC inspections of the basemat reinforcing steel, including: horizontal reinforcing steel, shrinkage and temperature reinforcement, inner and outer wall dowels, and mechanical reinforcing steel splices. In addition, inspectors reviewed various documents within the work package and design documents for the reinforcing steel to verify if:

- contractors had approved implementing procedures, which addressed the requirements of applicable American Concrete Institute (ACI) codes, prescribed adequate methods of QC inspection, and specified appropriate quantitative and qualitative acceptance criteria;
- QC inspectors were qualified to perform their assigned work;
- reinforcing steel installation was controlled and performed in accordance with the applicable specifications, codes, drawings, and procedures;
- reinforcing steel was located properly in the structures, secured, free of excess rust, and had proper clearances;
- QC inspections were performed to verify correct placement of reinforcing steel;
- the concrete batch plant and delivery vehicles were qualified by the National Ready Mix Concrete Association (NRMCA) program;
- the batch plant was producing the specified mix, using the proper qualified and approved constituents;

- concrete constituent testing was performed by qualified personnel utilizing calibrated equipment;
- concrete subgrade, form work, and reinforcing steel were free of foreign materials and excess rust;
- concrete was placed and consolidated by properly trained individuals using the proper equipment;
- fresh concrete tests; including slump, air content, temperature, and unit weight; were performed by qualified personnel and equipment; at the appropriate intervals; and
- proper finishing, curing, and temperature monitoring techniques and equipment were utilized.

In addition, inspectors reviewed applicable design specifications, E&DCRs, nonconformance reports, and corrective action reports associated with the basemat rebar installation to determine if:

- the licensee was identifying problems at an appropriate threshold and entering them into the corrective action program (CAP);
- nonconforming items were adequately identified and segregated; and
- deviations from requirements were effectively dispositioned.

b. Findings

No findings were identified.

1A08 (Unit 4) ITAAC Number 762 / Family 01F

a. Inspection Scope

During the weeks of November 12, 2013 and November 21, 2013, the inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.c. The inspectors used the following NRC IP/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.01-02.03 - Key Site Parameters
- 65001.01-02.06 - Records
- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.02 - Laboratory Testing
- 65001.02-02.03 - Special Considerations
- 65001.02-02.06 - Record Review
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.02-02.08 - Construction Interface Concerns
- 65001.A-02.01 - Observation of in-Process Installation Activities
- 65001.A-02.02 - Installation Records Review
- 65001.A-02.03 - Independent Assessment/Measurement Inspection
- 65001.A-02.04 - Review As-built Deviations/Nonconformance
- 65001.F - Inspection of the ITAAC-Related Design and Fabrication Requirements

- 65001.F-02.01 - Design Document Review
- 65001.F-02.02 - Fabrication Records Review
- 65001.F-02.03 - Observation of Fabrication Activities
- 65001.F-02.04 - General QA Review

The inspectors performed a field inspection of construction activities associated with this ITAAC for the Unit 4 nuclear island basemat within the non-radiologically controlled area of the auxiliary building. The inspectors also performed an inspection of the construction activities associated with all walls within the non-radiologically controlled area of the auxiliary building at elevation 66'-6" as it relates to this ITAAC. The inspectors applied the guidance in IP 65001.01, "Inspection of ITAAC-Related Foundations and Buildings," IP 65001.02, "Inspection of ITAAC-Related Installation of Structural Concrete," IP 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components (SSCs) Associated with ITAAC," and IP 65001.F, "Inspection of the ITAAC-Related Design and Fabrication Requirements." The inspectors conducted inspections of concrete and reinforcing steel placement, 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 if:

- structural concrete design and construction was accomplished under controlled conditions and in accordance with applicable 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 QC 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 and reinforcing steel for the proposed Unit 4 nuclear island structures. Specifically, the inspectors observed placement of the auxiliary building area basemat reinforcing steel, including: horizontal reinforcing steel, shrinkage and temperature reinforcement, shear reinforcement, embed plates, wall dowels, and mechanical reinforcing steel splices. In addition, inspectors reviewed various documents within the work package and design documents for the reinforcing steel to verify if:

- contractors had approved implementing procedures, which addressed the requirements of applicable ACI codes, prescribed adequate methods of quality control (QC) inspection, and specified appropriate quantitative and qualitative acceptance criteria;
- QC inspectors were qualified to perform their assigned work;
- reinforcing steel installation was controlled and performed in accordance with the applicable specifications, codes, drawings, and procedures;
- reinforcing steel was located properly in the structures, secured, free of excess rust, and had proper clearances;
- QC inspections were performed to verify correct placement of reinforcing steel;

- the concrete batch plant and delivery vehicles were qualified by the NRMCA program;
- the batch plant was producing the specified mix, using the proper qualified and approved constituents;
- concrete constituent testing was performed by qualified personnel utilizing calibrated equipment;
- concrete subgrade, form work, and reinforcing steel were free of foreign materials and excess rust;
- concrete was placed and consolidated by properly trained individuals using the proper equipment;
- fresh concrete tests; including slump, air content, temperature, and unit weight; were performed by qualified personnel and equipment; at the appropriate intervals; and
- proper finishing, curing, and temperature monitoring techniques and equipment were utilized.

In addition, inspectors reviewed applicable design specifications, E&DCRs, nonconformance reports, and corrective action reports associated with the basemat rebar installation to determine if:

- the licensee was identifying problems at an appropriate threshold and entering them into the CAP;
- nonconforming items were adequately identified and segregated; and
- deviations from requirements were effectively dispositioned.

b. Findings

No findings were identified.

1A09 (Unit 4) ITAAC Number 763 / Family 01F

a. Inspection Scope

During the week of November 12, 2013, the inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.d. The inspectors used the following NRC IP/sections to perform this inspection:

- 65001.01 - Inspection of ITAAC-Related Foundations & Buildings
- 65001.01-02.01 - Procedures
- 65001.01-02.03 - Key Site Parameters
- 65001.01-02.06 - Records
- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.02 - Laboratory Testing
- 65001.02-02.03 - Special Considerations
- 65001.02-02.06 - Record Review
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.02-02.08 - Construction Interface Concerns
- 65001.A - As-Built Attributes for SSCs associated with ITAAC

- 65001.A-02.01 - Observation of in-Process Installation Activities
- 65001.A-02.02 - Installation Records Review
- 65001.A-02.03 - Independent Assessment/Measurement Inspection
- 65001.A-02.04 - Review As-built Deviations/Nonconformance
- 65001.F - Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.01 - Design Document Review
- 65001.F-02.02 - Fabrication Records Review
- 65001.F-02.03 - Observation of Fabrication Activities
- 65001.F-02.04 - General QA Review

The inspectors performed a field inspection of construction activities associated with this ITAAC for the Unit 4 nuclear island basemat within the radiologically controlled area of the auxiliary building. The inspectors also performed an inspection of the construction activities associated with all walls within the radiologically controlled area of the auxiliary building at elevation 66'-6" as it relates to this ITAAC. The inspectors applied the guidance in IP 65001.01, "Inspection of ITAAC-Related Foundations and Buildings," IP 65001.02, "Inspection of ITAAC-Related Installation of Structural Concrete," IP 65001.A, "Inspection of the As-Built Attributes for Structures, Systems, and Components (SSCs) Associated with ITAAC," and IP 65001.F, "Inspection of the ITAAC-Related Design and Fabrication Requirements." The inspectors conducted inspections of concrete and reinforcing steel placement, 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 if:

- structural concrete design and construction was accomplished under controlled conditions and in accordance with applicable 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 QC 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 and reinforcing steel for the proposed Unit 4 nuclear island structures. Specifically, the inspectors observed placement of the auxiliary building area basemat reinforcing steel, including: horizontal reinforcing steel, shrinkage and temperature reinforcement, shear reinforcement, embed plates, wall dowels, and mechanical reinforcing steel splices. In addition, inspectors reviewed various documents within the work package and design documents for the reinforcing steel to verify if:

- contractors had approved implementing procedures, which addressed the requirements of applicable ACI codes, prescribed adequate methods of QC inspection, and specified appropriate quantitative and qualitative acceptance criteria;
- QC inspectors were qualified to perform their assigned work

- reinforcing steel installation was controlled and performed in accordance with the applicable specifications, codes, drawings, and procedures;
- reinforcing steel was located properly in the structures, secured, free of excess rust, and had proper clearances;
- QC inspections were performed to verify correct placement of reinforcing steel;
- the concrete batch plant and delivery vehicles were qualified by the NRMCA program;
- the batch plant was producing the specified mix, using the proper qualified and approved constituents;
- concrete constituent testing was performed by qualified personnel utilizing calibrated equipment;
- concrete subgrade, form work, and reinforcing steel were free of foreign materials and excess rust;
- concrete was placed and consolidated by properly trained individuals using the proper equipment;
- fresh concrete tests; including slump, air content, temperature, and unit weight; were performed by qualified personnel and equipment; at the appropriate intervals; and
- proper finishing, curing, and temperature monitoring techniques and equipment were utilized.

In addition, inspectors reviewed applicable design specifications, E&DCRs, nonconformance reports, and corrective action reports associated with the basemat rebar installation to determine if:

- the licensee was identifying problems at an appropriate threshold and entering them into the CAP;
- nonconforming items were adequately identified and segregated; and
- deviations from requirements were effectively dispositioned.

b. Findings

No findings were identified.

1P01 Quality Assurance Implementation, Appendix 1, Inspection of Criterion I – Organization (35007)

a. Inspection Scope

The inspectors reviewed licensing document change request (LDCR) 2013-017, the applicability determination for Nuclear Development Quality Assurance Manual (NDQAM) Version 11.0, and the associated 10 CFR 50.54(a) / 10 CFR 50.55(f) evaluation. The review determined whether changes made to the QA organizational hierarchy reduced the commitments in the QA program description previously accepted by the NRC. The inspectors noted that within version 11.0 of the NDQAM, changes were made to the organizational structure, including the relationship between the licensee upper management and the organizations responsible for establishing and implementing the QA functions. The inspectors verified that these changes did not adversely impact the ability of the licensee to effectively implement the QA program. The inspectors discussed these changes with the SNC Nuclear Development Quality

Assurance and Supplier Compliance Director, the Licensing Manager, and the Vogtle 3&4 Construction Vice President. The inspectors reviewed the organizational description and organization charts to determine whether the QA staff, as presented in version 11.0 of the NDQAM, had sufficient authority and organizational independence from the work being performed to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions.

The inspectors also reviewed LDCR 2013-078, the applicability determination for NDQAM Version 12.0, and the associated 10 CFR 50.54(a) / 10 CFR 50.55(f) evaluation, to determine whether changes made to the QA organizational hierarchy did not reduce the commitments in the QA program description previously accepted by the NRC. The inspectors noted that version 12.0 of the NDQAM made some important changes to the organizational structure of the QA organization. The inspectors verified that these changes did not adversely impact the ability of the licensee to effectively implement the QA program. The inspectors reviewed the organizational description and organization charts to determine whether the QA staff, as presented in version 12.0 of the NDQAM, had sufficient authority and organizational independence from the work being performed to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions.

b. Findings

No findings were identified.

1P02 Quality Assurance Implementation, Appendix 3, Inspection of Criterion III – Design Control (35007)

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." 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:

- APP-CA00-GEF-049, "General Notes; Removal of Temporary Weld Attachments, and Repair of Base Metal Defects," Revision 0;
- APP-CA00-GEF-048, "General Notes; Removal of Temporary Weld Attachments, and Repair of Base Metal Defects," Revision 0 and Revision 1;
- APP-CA00-GEF-012W, "Clarification of Temporary Weld Attachments," Revision 0 and Revision 1;

- APP-CE01-GEF-028, "Addition of 180 degree Hook Detail," Revision 0 and Revision 1;
- APP-CE01-GEF-032, "DWA Diameter Reduction and Addition of Hook Bar Details," Revision 0;
- SV0-CB65-GEF-000002, "CB65 Panel C to E," Revision 0; and
- APP-CA20-GEF-706, "CA20-22 relief Cuts - Allow Correction of Plate Distortion Due to Weld Heat Input," Revision 0.

b. Findings

No findings were identified.

1P03 Quality Assurance Implementation, Appendix 6, Inspection of Criterion VI – Document Control (35007)

a. Inspection Scope

On October 3, 2013, the inspectors performed a walkdown of the Vogtle Unit 3 reactor cavity module (CA04) fabrication activities, and reviewed work package number SV3-CA04-S5W-CV1549, "Fabrication of Submodule CA04-04." From this work package, the inspectors selected one drawing and two welding procedure specifications (WPS) for comparison to the CB&I electronic record database (master list of controlled documents), and technical document list in the work package, to verify the following:

- that the correct versions of these documents were issued to construction personnel, who performed safety-related construction activities;
- that any changes posted against these documents, not yet incorporated in a new Revision, were listed on the controlled copy in the field;
- that the controlled documents were accessible to all workers in the area;
- that the controlled documents contained the required signatures, and were marked in accordance with the QA program requirements; and
- that these documents were reviewed and approved by authorized personnel.

b. Findings

No findings were identified.

1P04 Quality Assurance Implementation, Appendix 7, Inspection of Criterion VII – Control of Purchased Material, Equipment, and Services (35007)

a. Inspection Scope

The NRC performed an evaluation of the licensee's recent oversight activities of their contractor, CB&I Power, and their subcontractor CB&I Lake Charles Facility (LCF) in response to NOV 05200025/2012004-02 (ML12319A458) and the Stop work Order (SWO) issued by SNC to CB&I Power on January 9, 2013. Specifically, the inspectors evaluated the oversight activities performed by the licensee at the CB&I LCF between January and October 2013. The inspectors performed this review to determine whether the licensee's oversight activities were adequate to assure that safety-related structural submodules conformed to the quality and technical requirements established by the

related procurement documents. The inspectors also evaluated whether these SNC surveillance activities were adequate to assess the effectiveness of the control of quality by their contractors (CB&I Power) and subcontractors (CB&I LCF) at intervals consistent with the importance, complexity, and quantity of the submodules fabricated by CB&I LCF. Furthermore, the inspectors noted that the results of the licensee's surveillance activities at CB&I LCF were considered by SNC as the basis by which the SWO was released for individual submodules.

The inspectors reviewed the licensee's QA program and implementing procedures related to their oversight of contractors and subcontractor both on and off-site. The inspectors interviewed several licensee staff and management, and reviewed a sample of corrective action records related to the NOV and SWO. The NRC reviewed portions of the SNC NDQAM and associated implementing procedures, related to SNC's oversight of contractors and subcontractors, to determine whether SNC had established adequate procedures to implement their NDQAM and 10 CFR Part 50, Appendix B, Criterion VII. Specifically, the inspectors reviewed the following QA program implementing procedures associated with Section 7, "Control of Purchased Material, Equipment, and Services," of the SNC NDQAM:

- ND-CO-007, "Nuclear Development Quality Assurance & Supplier Compliance Conduct of Operations," version 4;
- ND-QA-003, "Nuclear Development & Consortium Member Quality Assurance Surveillances," version 6 and 7 (superseded on 5/16/2013 by ND-CA-VNP-013);
- ND-CA-VNP-013, "Nuclear Development Quality Surveillance Program," versions 1, 2, and 3;
- ND-QA-007, "Nuclear Development Quality Assurance Escalation and Stop Work," versions 4 and 5; and
- ND-QA-013, "Nuclear Development Quality Assurance Assessment," versions 6 and 7;

b. Findings

No findings were identified.

1P05 Quality Assurance Implementation, Appendix 12, Inspection of Criterion XII – Control of Measuring and Test Equipment (35007)

a. Inspection Scope

On November 13, 2013, the inspectors observed Mistras perform a magnetic particle testing (MT) inspection of base metal buildup on submodule CB-65G, which was associated with the reactor coolant drain tank room located inside the Unit 3 containment vessel. The inspectors verified that the following measuring and test equipment (M&TE) were properly calibrated and qualified in accordance with the CB&I QA program: 0.1 to 1 inch carbon steel step wedge (SN 020012); ultrasonic testing (UT) thickness gauge (SN 05052330); and MT yoke B100 (SN 6432). The inspectors observed calibration of the UT thickness gauge. The inspectors verified that the M&TE was properly labeled and calibrations were not expired.

b. Findings

No findings were identified.

1P06 Quality Assurance Implementation, Appendix 13, Inspection of Criterion XIII – Handling, Storage and Shipping (35007)

a. Inspection Scope

The inspectors performed a walkdown of the on-site storage area for the Vogtle Unit 3 nuclear island safety-related embed plates, to determine whether the storage area complied with CB&I QA program requirements as well as Section 6, "Storage," of ASME NQA-1-1994, Subpart 2.2, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants." Specifically, the inspectors observed whether the storage area complied with the following attributes:

- access to the Level D storage areas were controlled as designated by the responsible organization;
- accepted items were tagged or marked as acceptable for use;
- unacceptable items were segregated or marked as unavailable for use, and a nonconformance report was initiated;
- items were stored on cribbing or equivalent to allow for air circulation and to avoid trapping water; and
- items were stored in an areas marked and designated for storage that was well drained, and reasonably removed from the actual construction area and traffic.

b. Findings

No findings were identified.

1P07 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 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 reviewed N&D reports associated with both Units 3 and 4.

The inspectors toured several of the on-site Level, B, C, and D storage areas to confirm that the licensee had established areas for segregating and controlling nonconforming

items. The inspectors selected a sample of nonconforming items in storage to determine if the items were segregated or marked to preclude inadvertent use, further processing, delivery, or installation.

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

- SV3-AT01-GNR-000009, "Damage to NI 3 Waterproofing";
- SV3-AT01-GNR-000010, "Damage to NI 3 Waterproofing";
- SV4-AT01-GNR-000008, "MSE Wall Panels Exceed Surface Profile Requirements (2)";
- SV3-CE01-GNR-000052, "Weld size on Basemat DWA Embed Plates";
- SV3-CE01-GNR-000045, "DWA Embeds for Wall Placement #4";
- SV3-CA04-GNR-000004, "Gouges in Base Metal of CA04";
- SV3-CB65-GNR-000010, "CB65 Panel A Bevel Wrong"; and
- SV3-CB65-GNR-000012, "CB65 Weld Condition in Field"

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 adhered to. 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 repair, or use-as-is was appropriately documented;
- non-conformances to design requirements dispositioned 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.

1P08 Quality Assurance Implementation, Appendix 16, Inspection of Criterion XVI – Corrective Action (35007)

a. Inspection Scope

Daily Corrective Action Program Review

As part of the various IP 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 CAP 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. Attributes reviewed included:

- 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;
- 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 root and contributing causes, as well as actions to preclude recurrence for significant conditions adverse to quality; and
- completion of corrective actions in a timely manner commensurate with the safety significance of the issue.

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 CAPs. 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 CAPs;
- 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 QA program; and
- potential adverse trends were appropriately identified and corrected by the licensee or their contractors.

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 CAPs to determine if the handling of these issues was consistent with the applicable QA 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;
- extent of condition was being adequately addressed; and
- appropriate corrective actions were developed and implemented.

b. Findings

No findings were identified.

1P09 Quality Assurance Implementation, Appendix 17, Inspection of Criterion XVII – Quality Assurance Records (35007)

a. Inspection Scope

On November 12, 2013, the inspectors performed an inspection of the MAB remote document control facility. Specifically, the inspectors verified that the following requirements from the CB&I Power Standard Nuclear Quality Assurance Program, Section 17, "Quality Assurance Records," were met:

- records were distributed, handled and controlled appropriately;
- the records system was sufficient to permit identification between the record and the activities to which it applies;
- individuals provided protection from damage or loss during the time the records were in their possession;
- a method existed for tracking release and receipt of records from craft;
- the records were stored in a predetermined location that provided protection from moisture and temperature;
- methods were established to preclude the entry of unauthorized personnel into the storage area; and
- temporary records were stored in a one hour fire rated container with the appropriate UL label.

b. Findings

No findings were identified.

1P10 Quality Assurance Implementation, Appendix 18, Inspection of Criterion XVIII – Audits (35007)

a. Inspection Scope

The inspectors reviewed a sample of SNC audits of CB&I Power, to determine whether these audits were performed in accordance with the SNC NDQAM, SNC Audit procedures, 10 CFR Part 50, Appendix B, Criterion XVIII, and ASME NQA-1-1994. The inspectors reviewed the following audit reports and audit follow-up correspondence:

- Audit Report SNC-ND-2012.09-LSA-SHAW-Corporate, conducted September 24 through October 3, 2012;

- Nuclear Development Quality Assurance Audit Closure Letter, dated May 31, 2013 - Limited Scope Audit of Shaw Nuclear Services Source Inspection Process, SNC-ND-2012.09-LSA-SHAW-Corporate;
- Audit Report SNC-ND-2013.03-LSA-CB&I, conducted March 25 - 26, 2013 (follow-up to Audit SNC-ND-2012.09-LSA-SHAW-Corporate, conducted September 24 through October 3, 2012)
- Audit Report SNC-ND-2013.05-CB&I-SITE-QA, conducted May 13 through May 29, 2013;
- NUPIC audit of Shaw Nuclear Services, INC. Canton, MA; Audit Number CNOS 13-090, conducted April 29 - May 3, 2013;

For the audit reports listed above, the inspectors verified the following attributes:

- audit was included in the audit schedule;
- audit was performed within the scheduled time frame;
- audit plan was prepared and issued;
- audit report included a determination of effectiveness of implementation and compliance with the QA program;
- audit report was reviewed by management responsible for audited area;
- audit report was distributed to designated organizations;
- audit report included summary of identified deficiencies and non-conformances, and a response due date;
- that adequate objective evidence was examined by the audit team, to the depth necessary, to determine whether the audited QA aspect met applicable requirements; and
- if applicable, audit findings corrected during audit were documented and verified during audit process.

For the deficiencies identified by the licensee in Audit Report SNC-ND-2012.09-LSA-SHAW-Corporate, the inspectors reviewed the contractor's response and associated corrective actions. The review was to determine whether the issues had been adequately resolved and that the licensee had reviewed and accepted the contractor's response.

For the audit reports listed above, the inspectors evaluated whether the results of the audit activities were sufficient to ascertain the general status of the contractor's implemented QA activities for the requirements in specific procurement documents. For a sample of audit findings associated with the audit reports listed above, the inspectors reviewed the licensee's follow-up activities to determine whether the findings were appropriately resolved.

The inspectors noted that SNC limited scope audits SNC-ND-2012.09-LSA-SHAW-Corporate and Audit Report SNC-ND-2013.03-LSA-CB&I, were performed by SNC to assess the Shaw Nuclear Services source inspection processes. SNC referred to the performance of a limited scope audit of the CB&I source inspection process in their response to NRC NOV 05200025/2012-004-02 (ML12354A357).

b. Findings

No findings were identified.

4. OTHER INSPECTION RESULTS

4AO5 Other Activities

.1 (Closed) VIO 05200025/2012-004-02: "As-Built Submodule CA20-04, Auxiliary Building Embed Plates, and Nuclear Island Reinforcement Steel Not In Accordance With Procurement Documents"

The inspectors performed a review of the licensee's corrective actions related to NRC Notice of Violation (NOV) 05200025/2012004-02, "As-Built Submodule CA20-04, Auxiliary Building Embed Plates, and Nuclear Island Reinforcement Steel Not In Accordance With Procurement Documents" (ML12319A458). The inspectors reviewed the licensee's response to this violation (ML12354A357) dated December 14, 2012. The inspectors performed this review to evaluate the adequacy of the licensee's corrective actions to restore compliance with 10 CFR Part 50, Appendix B, Criterion VII, "Control of Purchased Material, Equipment, and Services."

The inspectors reviewed SNC CAR 195621, which was referenced in SNC's response to NRC NOV 05200025/2012-004-02. Specifically, SNC's response to this NOV stated, in part, the following: "SNC has performed an apparent cause determination (ACD) for the purpose of determining corrective actions necessary to preclude the circumstances that led to this violation. Corrective actions currently being implemented include a risk-based CMP [compliance monitoring program] plan. This plan requires increased focus on receipt inspection activities [receipt inspection includes source inspection], and increased monitoring of construction and fabrication schedules related to vendors and suppliers." The inspectors reviewed the corrective actions associated with the apparent and contributing causes listed in CAR 195621 to determine whether those actions were adequate to restore compliance with NRC requirements.

As discussed in previous sections of this report, the inspectors evaluated the adequacy of SNC surveillance activities of their contractor, CB&I Power, and subcontractor, CB&I LCF, to determine whether SNC established adequate measures to implement section 7, "Control of Purchased Material, Equipment, and Services," of the SNC NDQAM. The inspectors also reviewed a sample of the SNC audit reports that documented their review and assessment of the CB&I source inspection process.

The inspectors also reviewed CB&I's corrective action record (CAR) 2012-874, to determine whether it provided adequate corrective actions to 1) develop and implement a graded approach to quality oversight and inspection, and 2) develop and implement an integrated approach to affect quality oversight and inspection.

The inspectors performed an independent inspection of safety-related embed plates and reinforcing steel intended for use in unit 3 nuclear island. During this inspection, the inspectors verified whether procured and accepted embed plates and reinforcing steel conformed to the requirements specified in their respective purchase order documents and Westinghouse procurement specifications. In order to determine adequacy of the items, the inspectors independently checked physical markings for identification of reinforcing steel; performed direct measurement of reinforcing steel to verify correct size and bend diameter; the inspectors visually examined studs welded as anchors attached to safety-related embed plates, to determine whether these studs exhibited full 360 degree welds; the inspectors also independently measured embed plate dimensions,

specifically the length, widths, and thickness of embed plates. The inspectors also performed a record review of quality controlled documents, such as QC receipt inspection records and material receipt reports. When reviewing documentation, the inspectors examined reinforcing steel CMTR to determine whether test results were documented and within the requirements specified in ASTM 706, "Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement."

The NRC has performed independent inspections of a sample of the submodules that were subject to the "hardware compliance reviews" and joint inspections described above. The inspectors have performed independent visual inspections of these modules to determine whether the submodules were compliant with all design and licensing requirements established by the UFSAR. The NRC has not identified any more than minor violations related to the quality of modules released from LCF since NOV 05200025/2012004-02 was issued. The NRC considers the NOV closed.

4AO6 Meetings, Including Exit

.1 Exit Meeting

On January 9, 2014, the inspectors presented the inspection results to Mr. Brian Whitley, Southern Nuclear Company Regulatory Affairs Director, along with other licensee and consortium staff members. The inspectors stated that no proprietary information would be included in the inspection report.

KEY POINTS OF CONTACT

Licenses and Contractor Personnel

SNC

S. Brannan - Supplier Compliance Inspector
C. Defnall - Supplier Compliance Field Specialist
M. Edmondson - Supplier Compliance Manager
O. Fernando - Supplier Compliance Engineer
W. Fuller – Supplier Compliance Supervisor
B. Harrison - Supplier Compliance Engineer
F. Hundley - QA Oversight Manager
B. Lowery - Quality Assurance Supervisor
C. Medlock - Supplier Compliance Director
H. Mahan - Licensing Manager
M. Rauckhorst - Vogtle 3&4 Construction Vice President
M. Yox - Licensing

CB&I

C. Flanders - Civil Field Engineer
J. Morgan - RIM Technician 2

MISTRAS

M. Schmalz - NDE

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Type</u>	<u>Status</u>	<u>Description</u>
05200025/2012-004-02	VIO	Closed	As-Built Submodule CA20-04, Auxiliary Building Embed Plates, and Nuclear Island Reinforcement Steel Not In Accordance With Procurement Documents (Section 4OA5.1)

LIST OF DOCUMENTS REVIEWED

Section 1A01:

SV3-CA04-S5W-CV1549, "Fabrication of Submodule CA04-04," Revision 0;
Weld Records (weld data sheets) for field welds: CV2046-30-0011 and CV2046-30-0012
SV3-CA04-S5K-CV2046, "Weld Map 3 CA04 Submodule 04 Fabrication," Revision 1;
SV3-CA04-S5B-04001, "Containment Building Areas 3 and 4 Module CA04 Submodule CA04-04 Bill of Materials," Revision 0;
SV3-CA04-S5-04002, "Containment Building Areas 3 and 4 Module CA04 Submodule CA04-04 Break-Down," Revision 0;
SV3-CA04-S5-04004, "Containment Building Areas 3 and 4 Module CA04 Submodule CA04-04 Structural Outline - Horizontal Sections / Views," Revision 0;

SV3-CA04-S5-04005, "Containment Building Areas 3 and 4 Module CA04 Submodule CA04-04 Structural Outline - Specific Details," Revision 0;
 SV3-GW-S9-300, "AP1000 Structural Modules Standard Weld Details," Revision 0;
 CMTRs for heat numbers 1103205 (WT4 X 10.5 Split T A-36), S12618 (0.5" X 10'4" X 28'2" A36 Plate);
 SV3-CA04-GNR-000004, "Gouges in Base Metal of CA04," Revision 0;
 SV3-CA04-GNR-000013, "CA04 WT Beam CJP Weld Inaccessible for 100% Inspection," Revision 0;

Section 1A02:

WPS2-1.1M70, "GMAW of AWS D1.1, Group I Carbon Steel Materials," Revision 0
 SV3-CA04-S4W-CV1551, "Weld Record - CA04-01 Wall Plate to CA04-02 Wall Plate," Revision 0
 SV3-CA04-S4W-CV1551, "Weld Record - CA04-02 Wall Plate to CA04-03 Wall Plate," Revision 0
 SV3-CA04-S4K-CV2066, "Weld Map - CA04 Submodule Walls and Stiffeners Assembly Looking North," Revision 0
 SV3-CA04-S4K-CV2067, "Weld Map - CA04 Submodule Walls and Stiffeners Assembly Looking South," Revision 0
 APP-CA04-S4-001, "Containment Building Areas 1, 2, 3, & 4 Module CA04 Isometric View A," Revision 1

Section 1A03:

Design Specifications:

SV3-CC01-Z0-031, Safety Related Placing concrete and Reinforcing Steel, Westinghouse Seismic Category I, Safety class C "NUCLEAR SAFETY", Revision 2

Procedures:

NCSP-3-42, Reinforcing Steel Installation, Revision 1
 CSI ICN-3-42-3-A, Reinforcing Steel Installation, Revision 3

Drawings:

SV3-1200-CR913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Elevations," Revision 7
 SV3-1210-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Sections & Details EL 66'-6", " Revision 3

Section 1A04:

SV3-CA20-S5-18001 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_18 Isometric Views," Revision 6
 SV3-CA20-S5-18002 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_18 Break Down," Revision 6
 SV3-CA20-S5-18003 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_18 Structural Outline Horizontal Sections/Views," Revision 3
 SV3-CA20-S5-18004 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_18 Structural Outline Vertical Sections/Views (Sheet 1)," Revision 6
 SV3-CA20-S5-18005 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_18 Structural Outline Specific Details," Revision 6

SV3-CA20-S5-18006 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_18 Structural Outline Vertical Sections/Views (Sheet 2)," Revision 0

SV3-CA20-S5-19001 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_19 Isometric Views," Revision 4

SV3-CA20-S5-19002 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_19 Break Down," Revision 5

SV3-CA20-S5-19003 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_19 Structural Outline Horizontal Sections/Views," Revision 4

SV3-CA20-S5-19004 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_19 Structural Outline Vertical Sections/Views," Revision 4

SV3-CA20-S5-19005 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_19 Structural Outline Specific Details," Revision 4

SV3-CA20-S5-20001 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_20 Isometric Views," Revision 4

SV3-CA20-S5-20002 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_20 Break Down," Revision 6

SV3-CA20-S5-20003 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_20 Structural Outline Horizontal Sections/Views," Revision 4

SV3-CA20-S5-20004 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_20 Structural Outline Vertical Sections/Views (Sheet 1)," Revision 4

SV3-CA20-S5-20005 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_20 Structural Outline Specific Details (Sheet 1)," Revision 5

SV3-CA20-S5-20006 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_20 Structural Outline Specific Details (Sheet 2)," Revision 2

SV3-CA20-S5-20007 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_20 Structural Outline Vertical Sections/Views (Sheet 2)," Revision 0

SV3-CA20-S5-22001 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_22 Isometric Views," Revision 4

SV3-CA20-S5-22002 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_22 Break Down," Revision 5

SV3-CA20-S5-22003 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_22 Structural Outline Horizontal Sections/Views," Revision 4

SV3-CA20-S5-22004 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_22 Structural Outline Vertical Sections/Views (Sheet 1)," Revision 5

SV3-CA20-S5-22005 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_22 Structural Outline Specific Details," Revision 5

SV3-CA20-S5-22006 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_22 Structural Outline Specific Details (Sheet 2)," Revision 0

SV3-CA20-S5-23001 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_23 Isometric Views," Revision 5

SV3-CA20-S5-23002 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_23 Break Down," Revision 5

SV3-CA20-S5-23003 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_23 Structural Outline Horizontal Sections/Views," Revision 3

SV3-CA20-S5-23004 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_23 Structural Outline Vertical Sections/Views," Revision 5

SV3-CA20-S5-23005 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_23 Structural Outline Specific Details," Revision 5

SV3-CA20-S5-26001 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Isometric Views," Revision 4

SV3-CA20-S5-26002 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Break Down (Sheet 1)," Revision 5
 SV3-CA20-S5-26003 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Break Down (Sheet 2)," Revision 3
 SV3-CA20-S5-26004 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Structural Outline Horizontal Sections/Views," Revision 5
 SV3-CA20-S5-26005 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Structural Outline Vertical Sections/Views (Sheet 1)," Revision 5
 SV3-CA20-S5-26006 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Structural Outline Vertical Sections/Views (Sheet 2)," Revision 4
 SV3-CA20-S5-26007 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Structural Outline Specific Details (Sheet 1)," Revision 4
 SV3-CA20-S5-26008 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Structural Outline Specific Details (Sheet 2)," Revision 0
 SV3-CA20-S5-26009 "Auxiliary Building Areas 5 & 6 Module CA20 Submodule CA20_26 Structural Outline Vertical Sections/Views (Sheet 3)," Revision 0
 E&DCR APP-CA20-GEF-706, "CA20-22 Relief Cuts - Allow Correction of Plate Distortion Due to Weld Heat Input," Revision 0.

Section 1A05:

APP-KQ11-GEF-022, "Clarification of Measuring Points for Bottom of Reactor Containment Sump (KQ11)," Revision 0;
 SV3-KQ11-KQK-ME2245, "KQ11 Containment Sump (MT-02) As Build & ITAAC's 2.3.10.01, 3.3.00.02F & 3.3.00.09," Revision 4;

Section 1A06:

CMS-830-15-PR-45154, "Radiographic Examination ASME Section III, Division 1 - Subsection NE," Revision 1;
 RT Reports: U4-074, U4-078, and U4-077;
 RT Film for U4-S1-A2/A3: Shots 0-1, 1-2, 23, 3-4, 6-7, 7-8, 10-11, 11-12, and 12-13;
 RT Film for Vertical Seam F14/A15 (Lower Equipment Hatch): 0-1, 3-4, 4-5, 5-6, 6-7, 13-14, 14-15, 15-16;
 RT Film for Vertical Seam F14/A5 (Lower Equipment Hatch): 0-1, 1-2, 2-3, 8-9, 9-10, 10-11, 16-17, 17-18;
 IHI Film for Joint WB4-A4-A (Lower Personnel Airlock): Film numbers 1, 2, 3, 8, 9, and 12;

Section 1A07, 1A08, and 1A09:

Design Specifications:

SV4-CC01-Z0-026, Safety Related Mixing and Delivering Concrete, Westinghouse Seismic Category I, Safety Class C "Nuclear Safety", Revision 5
 SV4-CC01-Z0-031, Safety Related Placing Concrete and Reinforcing Steel, Westinghouse Seismic Category I, Safety Class C "Nuclear Safety", Revision 2
 APP-CR01-Z0-011, Furnishing of Safety Related Reinforcing Steel, Westinghouse Safety Class C "Nuclear Safety Related", Revision 4
 APP-CC01-Z0-27, Safety Related Testing Services, Westinghouse Safety Class C "Nuclear Safety Related", Revision 3
 APP-SS01-Z0-003, Embedded and Miscellaneous Steel, Westinghouse Safety Class C, Revision 3

Procedures:

CSI 3-30-3, Batch Plant and Delivery Equipment-Testing, Calibration, and Certification, 4/30/2013
CSI 3-31-4, Concrete Batch Plant Operations, 6/7/2013
CSI 3-32-1, Concrete Batch Plant Mix and Material Control, 2/1/2013
CSI 3-44-8, Mechanical Splicing of Reinforcing Steel, 10/14/2013
CSI 3-42-3, Reinforcing Steel Installation, 10/14/2013
NCSP 3-30-0, Concrete Mixing and Delivery, 5/7/2008
NCSP 3-42-1, Reinforcing Steel Installation, 11/02/2012
NCSP 3-43-1, 6/28/2012
NCSP 3-44-0, Mechanical Splicing of Reinforcing Steel, 7/13/2013

E&DCRs:

SV0-CR01-GEF-000201, Revision 0
SV0-CR01-GEF-000202, Revision 0
SV0-CR01-GEF-000205, Revision 0
SV0-CR01-GEF-000031, Revision 0
SV0-CR01-GEF-000068, Revision 0
SV0-CR01-GEF-000109, Revision 0
SV0-CR01-GEF-000130, Revision 0
SV0-CR01-GEF-000193, Revision 0
SV3-CR01-GEF-000086, Revision 0
SV4-CR01-GEF-000012, Revision 0
SV4-CR01-GEF-000014, Revision 0
SV4-CR01-GEF-000016, Revision 0
SV4-CR01-GEF-000020, Revision 0
SV4-CR01-GEF-000023, Revision 0
SV4-CR01-GEF-000026, Revision 0
APP-0000-GEF-007, Revision 0
APP-0000-GEF-026, Revision 0
APP-0000-GEF-027, Revision 0
APP-0000-GEF-040, Revision 0
APP-1000-GEF-097, Revision 1
APP-1010-GEF-042, Revision 0
APP-1010-GEF-047, Revision 0

Drawings:

SV4-0000-C9-001, Revision 4
SV4-0000-C9-002, Revision 4
SV4-1000-CR-001, Revision 2
APP-1000-CR-002, Revision 10
APP-1000-CR-003, Revision 11
APP-1000-CR-005, Revision 12
APP-1000-CR-010, Revision 4
APP-1000-CR-901, Revision 10
SV4-1000-CR-904, Revision 4
APP-1000-CR-910, Revision 5
APP-1010-CR-001, Revision 1
APP-1010-CR-002, Revision 2
SV4-1010-CR-003, Revision 3

APP-1010-CR-004, Revision 2
 SV4-1010-CR-006, Revision 3
 APP-1010-CR-007, Revision 2
 APP-1010-CR-008, Revision 2
 SV4-1010-CR-009, Revision 3
 APP-1010-CR-010, Revision 10
 SV4-1010-CR-011, Revision 3
 APP-1010-CR-012, Revision 0
 SV4-1210-CR-901, Revision 3
 SV4-1210-CR-902, Revision 3
 SV4-1210-CR-903, Revision 4
 SV4-1210-CR-907, Revision 3
 SV4-1210-CR-908, Revision 1
 APP-1211-CE-001, Revision 6
 APP-1212-CE-001, Revision 6
 APP-1212-CE-002, Revision 6
 APP-1212-CE-003, Revision 6
 APP-1215-CE-005, Revision 10
 APP-1215-CE-006, Revision 5
 APP-CE01-CE-001, Revision 4
 APP-CE01-CE-002, Revision 3

Miscellaneous:

Receipt Inspection of Reinforcing Steel, IR No. Q445-006-13-0510, Revision 2
 Receipt Inspection of Reinforcing Steel, IR No. Q445-006-13-0487, Revision 2
 Receipt Inspection of Reinforcing Steel, IR No. Q445-006-13-0488, Revision 2
 Receipt Inspection of Embed Plates, IR No. Q445-011-13-0474, Revision 2
 Receipt Inspection of Embed Plates, IR No. Q445-011-13-0383, Revision 2

Section 1P01:

NDQAM, Version 10, 11, and 12;
 LDCR number LDCR-2013-017, "Nuclear Development Quality Assurance Manual, Version 11.0," Version 1.0;
 LDCR-2013-078, "UFSAR and NDQAM Changes Associated with Quality Assurance Organizational Changes," Version 2.0;
 Applicability determination for NDQAM Version 11.0 (CR 569515 / TE 582502);
 Applicability determination for NDQAM Version 12.0;
 10 CFR 50.54(a) / 10 CFR 50.55(f) evaluation for TE 582502, dated 4-17-2013;
 10 CFR 50.54(a) / 10 CFR 50.55(f) evaluation for NDQAM Version 12.0, dated 10-23-2013;
 ND-LI-VNP-002, "Applicability Determination and 50.59 / Departure Screening for VEGP 3&4," Version 7.0;

Section 1P02:

APP-GW-GAP-420, "Engineering and Design Coordination Report," Revision 7;
 APP-CA00-GEF-049, "General Notes; Removal of Temporary Weld Attachments, and Repair of Base Metal Defects," Revision 0;
 APP-CA00-GEF-048, "General Notes; Removal of Temporary Weld Attachments, and Repair of Base Metal Defects," Revision 0 and Revision 1;

APP-CA00-GEF-012W, "Clarification of Temporary Weld Attachments," Revision 0 and Revision 1;
 APP-CE01-GEF-032, "DWA Diameter Reduction and Addition of Hook Bar Details," Revision 0;
 APP-CE01-GEF-028, "Addition of 180 degree Hook Detail," Revision 0 and Revision 1;
 SV3-CA20-S5Y-00003, "Auxiliary Building Areas 5 & 6 Module CA20 Submodules General Notes - III," Revision 1 and Revision 0;
 SV3-CA20-S5Y-00004, "Auxiliary Building Areas 5 & 6 Module CA20 Submodules General Notes - IV," Revision 1;
 APP-CA20-GEF-706, "CA20-22 relief Cuts - Allow Correction of Plate Distortion Due to Weld Heat Input," Revision 0;
 SV0-CB65-GEF-000002, "CB65 Panel C to E," Revision 0; and
 SV3-CB65-S5-013, "Structural Outline - Specific Details I," Revision 2

Section 1P03:

SV3-CA04-S5K-CV2046, "Weld Map 3 CA04 Submodule 04 Fabrication," Revision 1;
 SV3-CA04-S5W-CV1549, "Fabrication of Submodule CA04-04," Revision 0;
 WPS 2-1.1M01, "GMAW of Carbon and Low Alloy Steels, Primarily AWS D1.1 Group I and II Materials, As Welded (ER70S-3 or ER70S-6)," Revision 0;
 WPS 2-1.1S01, "SMAW of Carbon and Low Alloy Steels, Primarily AWS D1.1 Group I and II Materials, As Welded (E7018)," Revision 1;

Section 1P04:

SNC NDQAM, Version 11.0;
 SNC Procedure ND-QA-011, "Implementing Procedure Reference Document," Version 4 (effective date 11/15/2012) and Version 5 (effective date 6/17/2013);
 SNC Procedure ND-QA-003, "Nuclear Development & Consortium Member Quality Assurance Surveillances," version 6 and 7;
 SNC Procedure ND-CO-007, "Nuclear Development Quality Assurance & Supplier Compliance Conduct of Operations," version 4.0 (effective date 5/10/2013);
 SNC Procedure ND-CA-VNP-013, "Nuclear Development Quality Surveillance Program," version 1.0 (effective 5/16/2013), version 2.0 (effective 7/17/2013), and version 3.0 (effective 9/5/2013);
 SNC procedure ND-QA-007, Nuclear Development Quality Assurance Escalation and Stop Work, version 4.0 (effective 2/24/2012), version 5.0 (effective 6/17/2013);
 SNC Procedure ND-QA-013, "Nuclear Development Quality Assurance Assessments," version 6.0 (effective 1/10/2013), version 7.0 (effective 6/17/2013);
 SNC Condition Reports (CRs) 570877, 609190;
 SNC Corrective Action Record (CAR) 195621;
 SNC Technical Evaluations (TEs) 508045, 508050, 508082, 508092;
 CB&I Corrective Action Record (CAR) 2012-874;

Section 1P07:

APP-CE01-S3C-001, "AP1000 Seismic Category I Generic Overlay Plate and Deformed Wire Anchor Embedments - Capacities Calculation," Revision 1;
 SNC condition report 732656;
 CB&I procedure QS 15.1, "Nonconformance & Disposition Report," Revision 4;
 SV3-AT01-GNR-000009, "Damage to NI 3 Waterproofing";
 SV3-AT01-GNR-000010, "Damage to NI 3 Waterproofing";

SV3-CA04-GNR-000004, "Gouges in Base Metal of CA04," Revision 0;
 SV4-AT01-GNR-000008, "MSE Wall Panels Exceed Surface Profile Requirements (2)";
 SV3-CE01-GNR-000052, "Weld size on Basemat DWA Embed Plates";
 SV3-CE01-GNR-000045, "DWA Embeds for Wall Placement #4";
 SV3-CA04-GNR-000004, "Gouges in Base Metal of CA04," Revision 0;
 SV3-CB65-GNR-000010, "CB65 Panel A Bevel Wrong," Revision 0;
 SV3-CB65-GNR-000012, "CB65 Weld Condition in Field," Revision 0.

Section 1P08:

SNC NDQAM, Version 11.0;
 SNC Procedure ND-QA-011, Implementing Procedure Reference Document," Version 4 (effective date 11/15/2012) and Version 5 (effective date 6/17/2013);
 SNC Procedure ND-QA-003, "Nuclear Development & Consortium Member Quality Assurance Surveillances," version 6 and 7;
 SNC Procedure ND-CO-007, "Nuclear Development Quality Assurance & Supplier Compliance Conduct of Operations," version 4.0 (effective date 5/10/2013);
 SNC Procedure ND-CA-VNP-013, "Nuclear Development Quality Surveillance Program," version 1.0 (effective 5/16/2013), version 2.0 (effective 7/17/2013), and version 3.0 (effective 9/5/2013);
 SNC procedure ND-QA-007, Nuclear Development Quality Assurance Escalation and Stop Work, version 4.0 (effective 2/24/2012), version 5.0 (effective 6/17/2013);
 SNC Procedure ND-QA-013, "Nuclear Development Quality Assurance Assessments," version 6.0 (effective 1/10/2013), version 7.0 (effective 6/17/2013);
 SNC Condition Reports (CRs) 52444, 570877, 609190;
 SNC Corrective Action Record (CAR) 195621;
 SNC Technical Evaluations (TEs) 508045, 508050, 508082, 508092, 508062, 508071, 508074, 525022
 CB&I Corrective Action Record (CAR) 2012-874;
 Audit Report SNC-ND-2012.09-LSA-SHAW-Corporate, conducted September 24 through October 3, 2012;
 Nuclear Development Quality Assurance Audit Closure Letter, dated May 31, 2013 - Limited Scope Audit of Shaw Nuclear Services Source Inspection Process, SNC-ND-2012.09-LSA-SHAW-Corporate;
 Audit Report SNC-ND-2013.03-LSA-CB&I, conducted March 25 - 26, 2013 (follow-up to Audit SNC-ND-2012.09-LSA-SHAW-Corporate, conducted September 24 through October 3, 2012)
 SNC Technical Evaluations (TEs) 596878, 516321, 722104, 646709, 646713
 SNC Condition Reports (CRs) 720443, 644483,
 WEC Issue Report (IR) 12-261-M043;
 WEC Issue Report (IR) 13-017-M051;

Section 1P09:

CB&I Power Standard Nuclear Quality Assurance Program, Section 17, "Quality Assurance Records," Revision B

Section 1P10:

Audit Report SNC-ND-2012.09-LSA-SHAW-Corporate, conducted September 24 through October 3, 2012;

Nuclear Development Quality Assurance Audit Closure Letter, dated May 31, 2013 - Limited Scope Audit of Shaw Nuclear Services Source Inspection Process, SNC-ND-2012.09-LSA-SHAW-Corporate;
Audit Report SNC-ND-2013.03-LSA-CB&I, conducted March 25 - 26, 2013 (follow-up to Audit SNC-ND-2012.09-LSA-SHAW-Corporate, conducted September 24 through October 3, 2012)
Audit Report SNC-ND-2013.05-CB&I-SITE-QA, conducted May 13 through May 29, 2013;
NUPIC audit of Shaw Nuclear Services, INC. Canton, MA; Audit Number CNOS 13-090, conducted April 29 - May 3, 2013;
Section 18, "Audits," of the SNC NDQAM, Version 11;
ND-QA-009, "Supplier Safety-Related Program Audits," versions 3 and 4;

LIST OF ACRONYMS

ACD	Apparent Cause Determination
ACI	American Concrete Institute
ADAMS	Agencywide Documents Access & Management System
AISC	American Institute of Steel Construction
ASTM	American Society of Testing and Materials
AWS	American Welding Society
CAR	Corrective Action Program
CB&I	Chicago Bridge and Iron
CMP	Compliance Monitoring Program
CMTR	Certified Material Test Reports
COL	Combined License
E&DCR	Engineering and Design Coordination Report
ECP	Engineering, Procurement, and Construction
IP	Inspection Procedures
IR	Inspection Report
ITAAC	Inspections, Tests, Analysis, and Acceptance Criteria
LCF	Lake Charles Facility
LDCR	Licensing Document Change Request
M&TE	Measuring and Test Equipment
MAB	Modular Assembly Building
MT	Magnetic Particle Testing
N&D	Nonconformance and Disposition
NDE	Nondestructive Examination
NDQAM	Nuclear Development Quality Assurance Manual
NRC	Nuclear Regulatory Commission
NRMCA	National Ready Mix Concrete Association
PARS	Publicly Available Records
QA	Quality Assurance
QC	Quality Control
RT	Radiographic Testing
SSC	Structures, Systems, and Components
SWO	Stop Work Order
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Testing
VEGP	Vogtle Electric Generating Plant
WEC	Westinghouse Electric Company
WPS	Welding Procedure Specification