



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

October 30, 2013

Mr. Ronald A. Jones
Vice President, New Nuclear Operations
South Carolina Electric and Gas
P.O. Box 88 (Mail Code P40)
Jenkinsville, SC 29065-0088

**SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3 - NRC
INTEGRATED INSPECTION REPORTS 05200027/2013004 and
05200028/2013004**

Dear Mr. Jones:

On September 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Virgil C. Summer Nuclear Station Units 2 and 3. The enclosed inspection report documents the inspection results which were discussed on October 22, 2013, with Al Paglia and other members of your staff.

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).

Sincerely,

/RA/

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

Docket Nos.: 05200027, 05200028

License Nos.: NPF-93, NPF-94

Enclosure: Inspection Report 05200027/2013004
and 05200028/2013004
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

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).

Sincerely,

/RA/

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

Docket Nos.: 05200027, 05200028

License Nos.: NPF-93, NPF-94

Enclosure: Inspection Report 05200027/2013004
 and 05200028/2013004
 w/Attachment: Supplemental Information

cc w/encl: (See page 2)

PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
 ACCESSION NUMBER: ML13304A907 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	RII: DCI	RII: DCI	RII: DCI	RII: DCP	RII: DCI	RII: DCI	RII: DCI
SIGNATURE	ASA1 via e-mail	AFP1 via e-mail	MEE for DJS3	TCS via e-mail	PBD1 for CAS6 via e-mail	SPS2 via e-mail	SEA
NAME	A. Artayet	A. Ponko	J. Seat	T. Steadham	C. Smith	S. Smith	S. Temple
DATE	10/24/2013	10/25/2013	10/30/2013	10/24/2013	10/30/2013	10/30/2013	10/30/2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICE	RII: DCP	RII: DCP	RII: DCP	RII: DCP	RII: DCP	RII: DCP	RII: DCP
SIGNATURE	PBD1 via e-mail	DMF1 via e-mail	CKH1 via e-mail	PBD1 for RLJ3 via e-mail	JXK		
NAME	P. Donnelly	D. Failla	C. Huffman	R. Jackson	J. Kent		
DATE	10/30/2013	10/29/2013	10/29/2013	10/30/2013	10/30/2013		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

cc w/encl:

Mr. Jeffrey B. Archie
Sr. Vice President, Nuclear Operations
South Carolina Electric & Gas Company
MC D304
220 Operation Way
Cayce, SC 29033-3172

Chairman
Fairfield County Council
Drawer 60
Winnsboro, SC 29180

Ms. Shannon Bowyer Hudson
Office of Regulatory Staff
State of South Carolina
1401 Main Street
Suite 900
Columbia, SC 29201

Mr. George McKinney
Director
South Carolina EMD
1100 Fish Hatchery Road
West Columbia, SC 29172

Ms. Gidget Stanley-Banks
Director
Allendale County EPA
426 Mullberry Street
Allendale, SC 29810

Email

abynum@scana.com (Al Bynum)
amonroe@scana.com (Amy Monroe)
APAGLIA@Scana.com (Al Paglia)
APH@NEI.org (Adrian Heymer)
arice@scana.com (April R. Rice)
awc@nei.org (Anne W. Cottingham)
bedforbj@westinghouse.com (Brian Bedford)
Bill.Jacobs@gdsassociates.com (Bill Jacobs)
charles.baucom@cbi.com (Charles T. Baucom)
christina.barnett@scana.com (Christina Barnett)
collinlj@westinghouse.com (Leslie Collins)
CumminWE@Westinghouse.com (Edward W. Cummins)
cwaltman@roe.com (C. Waltman)
david.lewis@pillsburylaw.com (David Lewis)
DCRM-EDMS@SCANA.COM
delongra@westinghouse.com (Rich DeLong)
dgriffin@scana.com (Donna S. Griffin)
ed.burns@earthlink.net (Ed Burns)
ewingja@westinghouse.com (Jerrod Ewing)
fbelser@regstaff.sc.gov
gzinke@entergy.com (George Alan Zinke)
hutchiwe@westinghouse.com (William Hutchins)
jarchie@scana.com (Jeffrey B. Archie)
jenkinse@dhec.sc.gov (Susan Jenkins)
jflitter@regstaff.sc.gov
Joseph_Hegner@dom.com (Joseph Hegner)
karlg@att.net (Karl Gross)
kinneyrw@dhec.sc.gov (Ronald Kinney)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
lchandler@morganlewis.com (Lawrence J. Chandler)
maria.webb@pillsburylaw.com (Maria Webb)
mark.beaumont@wsms.com (Mark Beaumont)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)
mcintyba@westinghouse.com (Brian McIntyre)
media@nei.org (Scott Peterson)
MSF@nei.org (Marvin Fertel)
nirsnet@nirs.org (Michael Mariotte)
Nuclaw@mindspring.com (Robert Temple)
patriciaL.campbell@ge.com (Patricia L. Campbell)
Paul@beyondnuclear.org (Paul Gunter)
pbessette@morganlewis.com (Paul Bessette)
porterhj@dhec.sc.gov (Henry Porter)
randall@nexusamllc.com (Randall Li)
RJB@NEI.org (Russell Bell)
Ronald.Jones@scana.com (Ronald Jones)
russpa@westinghouse.com (Paul Russ)
sabinski@suddenlink.net (Steve A. Bennett)
sburdick@morganlewis.com (Stephen Burdick)
sbyrne@scana.com (Stephen A. Byrne)

sfrantz@morganlewis.com (Stephen P. Frantz)
shudson@regstaff.sc.gov (Shannon Hudson)
stephan.moen@ge.com (Stephan Moen)
TGATLIN@scana.com (Thomas Gatlin)
threatsj@dhec.sc.gov (Sandra Threatt)
tom.miller@hq.doe.gov (Tom Miller)
TomClements329@cs.com (Tom Clements)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
vcsnrc@scana.com (NRC Senior Resident Inspector
Wanda.K.Marshall@dom.com (Wanda K. Marshall)
weave1dw@westinghouse.com (Doug Weaver)
William.Cherry@scana.com (William Cherry)
wmcherry@santeecooper.com (Marion Cherry)

Letter to R. Jones from Michael E. Ernstes dated October 30, 2013

SUBJECT: VIRGIL C. SUMER NUCLEAR STATION UNITS 2 AND 3 - NRC INTEGRATED
INSPECTION REPORTS 05200027/2013004 and 05200028/2013004

Distribution w/encl:

Region II Regional Coordinator, OEDO (D. Huyck)

T. Fredette, NRO

T. Kozak, NRO

L. Burkhart, NRO

D. McGovern, NRO

J. Munday, RII

M. Miller, RII

J. Yerokun, RII

M. Ernstes, RII

R. Musser, RII

S. Freeman, RII

A. Masters, RII

G. Khouri, RII

J. Kent, RII

R. Jackson, RII

P. Donnelly, RII

D. Failla, RII

ConE_Resouce@nrc.gov

NRO_cROPResource@nrc.gov

PUBLIC

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

Docket Numbers: 05200027
05200028

License Numbers: NPF-93
NPF-94

Report Numbers: 05200027/2013004
05200028/2013004

Licensee: South Carolina Electric and Gas

Facility: Virgil C. Summer Nuclear Station Unit 2
Virgil C. Summer Nuclear Station Unit 3

Location: Jenkinsville, SC

Inspection Dates: July 1 through September 30, 2013

Inspectors: A. Artayet, Senior Construction Inspector, DCI
P. Donnelly, Resident Inspector, DCP
D. Failla, Resident Inspector, DCP
C. Huffman, Resident Inspector, DCP
R. Jackson, Senior Resident Inspector, DCP
J. Kent, Construction Project Inspector, DCP
A. Ponko, Senior Construction Inspector, DCI
J. Seat, Construction Inspector, DCI
C. Smith, Student Engineer, DCI
S. Smith, Senior Construction Inspector, DCI
T. Steadham, Senior Construction Project Inspector, DCP
S. Temple, Construction Inspector, DCI

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

Enclosure

SUMMARY OF FINDINGS

Inspection Report 05200027/2013004, 05200028/2013004; 07/01/2013 through 09/30/2013; Virgil C. Summer Nuclear Station Unit 2, Virgil C. Summer Nuclear Station Unit 3, Routine Integrated Inspection Report.

This report covers a three-month period of inspection by resident inspectors and announced Inspections, Tests, Analysis, and Inspection Criteria (ITAAC) inspections by both regional and resident inspectors. The Nuclear Regulatory Commission's (NRC's) program for overseeing the construction of commercial nuclear power reactors is described in IMC 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 initial lift of concrete in the Unit 2 containment vessel bottom head in the nuclear island and continued constructing concrete reinforcing bar in the Unit 3 nuclear island.

1. CONSTRUCTION REACTOR SAFETY

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

1A01 (Unit 2) ITAAC Number 86 / Family 05F

a. Inspection Scope

The inspectors performed an in-office inspection of construction activities associated with ITAAC Number 2.1.03.11:

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
The RPV beltline material has a Charpy upper-shelf energy of no less than 75 ft-lb.	Manufacturing tests of the Charpy V-Notch specimen of the RPV beltline material will be performed.	A report exists and concludes that the initial RPV beltline Charpy upper-shelf energy is no less than 75 ft-lb.

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

- 65001.05 – Inspection of ITAAC-Related Installation of Reactor Pressure Vessel and Internals
- 65001.05-02.07 – Records Review
- 65001.05-02.08 – Problem Identification and Resolution
- 65001.F – Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.04 – Problem Identification and Resolution

The inspectors reviewed the contents of certified material test reports for the results of chemical analysis, tensile testing, and impact testing performed by the Doosan Heavy Industries and Construction Company to determine whether the initial fracture toughness and upper-shelf energy requirements of the ferritic steel forging materials for the upper shell, lower shell (active core area), transition ring, and welding procedure specifications that include weld filler metal and heat affected zone qualifications for both girth welds of the Unit 2 reactor pressure vessel beltline region were performed in accordance with:

- 1998 Edition including 2000 Addenda of the American Society of Mechanical Engineers (ASME) Section III Code, Division 1, Subsection NB for Class 1 Components;

- ASME Section II, Part A, SA-508, Grade 3, Class 1, Specification for Quenched and Tempered Vacuum-Treated Carbon and Alloy Steel Forgings for Pressure Vessels;
- ASME Section II, Part C, SFA-5.23, Specification for Low-Alloy Steel Electrodes and Fluxes for Submerged Arc Welding;
- ASME Section II, Part C, SFA-5.5, Specification for Low-Alloy Steel Electrodes for Shielded Metal Arc Welding;
- ASME Section IX, Welding and Brazing Qualifications;
- Westinghouse Electric Company (WEC), APP-MV01-Z0-101, Design Specification for AP1000 Reactor Vessel;
- 10 CFR 50 Appendix G, Section IV, Fracture Toughness Requirements; and
- Unit 2 Updated Final Safety Analysis Report (UFSAR).

The inspectors reviewed the results of drop-weight impact testing and specimen removal locations and orientations with respect to the working direction to determine whether the nil-ductility transition temperature selections using a duplicate test at the lowest no-break temperature were conducted in accordance with ASME Section III, Subarticle NB-2300, Fracture Toughness Requirements for Materials.

The inspectors reviewed the results of Charpy V-notch impact testing and specimen removal locations and orientations with respect to the working direction to determine whether the upper-shelf energy and lateral expansion values complied with 10 CFR 50 Appendix G and ASME Section III, Subarticle NB-2300, Fracture Toughness Requirements for Materials.

b. Findings

No findings were identified.

1A02 (Unit 2) ITAAC Number 93 / Family 06B

a. 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
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 nondestructive examination of pressure boundary welds.

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

- 65001.B – Inspection of the ITAAC-Related Welding Program
- 65001.B-02.04 – Production Controls

- 65001.B-02.05 – Inspection
- 65001.B-02.06 – Records
- 65001.11 – Construction Inspection Program Inspection of ITAAC-Related Containment Integrity and Containment Penetrations
- 65001.11-02.03 – Installation and Welding
- 65001.11-02.05 – Nondestructive Examination
- 65001.F – Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.02 – Fabrication Records Review
- 65001.F-02.03 – Observation of Fabrication Activities

The inspectors observed field welding of section 6 of containment vessel ring 1 external stiffener to determine whether the welding was performed in accordance with the design specification and ASME Code Section III, Subsection NE. During the weld observations, the inspectors reviewed the following:

- associated weld data records to determine whether the correct welding procedure specifications (WPSs) were referenced, hold points were observed, and inspections were performed;
- weld root spacing was within the tolerances specified on the drawing;
- examined the weld filler material to determine whether the material was in accordance with the WPS;
- examined the welding gas to determine whether the gas was in accordance with the WPS;
- observed that the welder was welding within the WPS variables;
- the weld joint was protected from wind and rain in accordance with the general welding procedure specification for the flux cored arc welding process;
- preheat and interpass temperatures were monitored and controlled in accordance with the general welding procedure specification for the flux cored arc welding process and the specific WPS; and
- the weld was traceable to the welder.

The inspectors reviewed certified material test reports (CMTRs) for ring 1 external stiffener material, block number B2-F4, to determine whether the procured material met the requirements of ASME SA-738 material specification and ASME Code Section III, Subsection NE. The inspectors reviewed supplier fabrication records for ring 1 external stiffener material, block number B2-F4, to determine whether the procured material met the requirements of ASME Code Section III, Subsection NE. Specifically, the inspectors reviewed the following:

- CMTRs for the welding material;
- weld joint fit-up records;
- WPSs and associated procedure qualification records (PQRs);
- welder qualifications; and
- radiographic examination (RT) and magnetic particle examination (MT) reports.

The inspectors observed Chicago Bridge and Iron (CB&I) personnel performing MT on a fillet weld of the U2 containment vessel ring 1 external stiffener and gusset plates to determine whether the nondestructive testing was performed in accordance with the

design specification and ASME Code Section III, Subsection NE. The inspectors reviewed radiographic film to determine whether the RT of ring 1 and ring 2 welds were acceptable and film interpretation was performed in accordance with procedures and ASME Code Section III, Subsection NE. The inspectors reviewed radiographic film for the following welds:

- B2-13 and B2-14 (steam and feed penetrations) insert plates;
- ring 2 S6 to S7 girth weld; and
- S7 joint D vertical weld.

The inspectors reviewed certificates of conformance for RT image quality indicators to determine whether the indicators were manufactured in accordance with American Society for Testing and Materials (ASTM) E747-02 specification.

b. Findings

No findings were identified.

1A03 (Unit 2) ITAAC Number 93 / Family 06B

a. Inspection Scope

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

- 65001.B-02.05 – Inspection
- 65001.11-02.03 – Installation and Welding
- 65001.11-02.05 – Nondestructive Examination

The inspectors observed in-process MT of six attachment plates welded to the Unit 2 containment vessel ring 1, designated as attachment numbers C-224 through C-229. The inspectors observed the testing to determine if it was performed in accordance with CB&I procedure CMS-830-15-PR-45160, "Magnetic Particle Examination, Color Contrast, Dry Yoke, ASME Section III, Division 1 - Subsection NE," Revision 1. The inspectors reviewed the training and qualification records of the individual performing the MT (inspector number 2042693) to determine if he was qualified as per the CB&I ASME Section III nondestructive examination program.

The inspectors observed in-process welding of the Unit 2 containment vessel ring 2 course 7 to course 8 and measured root gap and plate offset to determine if:

- the welding was being performed in accordance with an approved traveler;
- fit-up and weld joint geometry was in accordance with specification 164621-013-01, Field Edge Preps and Weld Details - Main Shell, Revision 7;
- welding equipment was in good condition and within the current calibration interval;
- welding wire used being used was in conformance with the requirements of the applicable welding procedure specification, E91TG-H4, Revision 8; and

- welding was performed in accordance with specification 164621-000-15-SP-015003, General Welding Procedure Specification for the Flux Cored Arc Welding Process, Revision 0.

The inspectors reviewed the welding performance qualification for welder numbers 3294041 and 909994 to determine if they were qualified to perform the observed welding as per the CB&I ASME Section III welding program. The inspectors reviewed the certified material test report for the weld wire being used to determine if the wire conformed to the applicable requirements of ASME Section III and was supplied in accordance with Appendix B to 10 CFR 50 and 10 CFR 21.

b. Findings

No findings were identified.

1A04 (Unit 2) 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 for the Unit 2 reactor vessel cavity (module CA04).

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
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.	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.	A report exists which reconciles deviations during construction and concludes that the as-built containment internal structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

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

- 65001.01-02.01 – Procedures
- 65001.01-02.05 – Steel Structures
- 65001.01-02.06 – Records
- 65001.F-02.03 – Observation of Fabrication Activities
- 65001.B-02.01 – Program and Procedures Review
- 65001.B-02.04 – Production Controls
- 65001.B-02.05 – Inspection

The inspectors reviewed drawings, WPSs and supporting PQRs, fabrication records, and observed nondestructive testing to determine whether the documents met the

requirements of the design specification, design drawings, and American Welding Society (AWS) D1.1-2000, Structural Steel Welding Code.

The inspectors reviewed CMTRs for submodule assembly CA04-04, to determine whether the procured material met the requirements of ASTM A36/A36M material specification and AWS D1.1-2000. The inspectors reviewed supplier fabrication records for submodule assembly CA04-04 to determine whether the procured material met the requirements of the design drawings and AWS D1.1-2000.

The inspectors observed assembly, fit-up, and field welding activities for various sections of CA04 to determine whether the assembly, fit-up, and welding were performed in accordance with the design specification and AWS D1.1-2000. During the assembly, fit-up, and weld observations, the inspectors reviewed the following:

- the shape, size, dimensions, type, and grade of material conformed to the design specification and drawings;
- the associated weld data record to determine whether correct WPS were referenced, hold points were observed, and inspections were performed;
- surfaces to be welded met the requirements of AWS D1.1-2000;
- weld root spacing was within the tolerances specified on the drawing;
- examined the weld filler material to determine whether the material was in accordance with the WPS;
- examined the welding gas to determine whether the gas was in accordance with the WPS;
- observed that the welder was welding within the WPS variables;
- the weld joint was protected from wind and rain in accordance with the general welding procedure specification;
- preheat and interpass temperatures were monitored and controlled in accordance with the general welding procedure specification and the specific WPS; and
- welds were traceable to the welder.

The inspectors reviewed the following activities to determine if they complied with the applicable provision of AWS D1.1-2000:

- welder performance qualification records of the observed welders;
- weld filler material CMTRs used for CA04; and
- ultrasonic examination report V2-13-W-U-063 (for field welds FW-0401, FW-0304, FW-0203, and FW-0102) to determine whether the examination was properly conducted.

In addition, the inspectors observed ultrasonic testing of field weld FW-0011 to determine whether:

- personnel performing the examination were qualified to perform the test;
- equipment used to perform the examination was properly calibrated;
- location and extent of examination was clearly defined; and
- indications were evaluated in accordance with procedure QAD 9.53, "Ultrasonic Examination of Structural Welds per AWS D1.1," Revision 2.

b. Findings

No findings were identified.

1A05 (Unit 2) 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 inspection procedures to perform this inspection:

- 65001.02-02.01 – Inspection of Concrete Placement
- 65001.02-02.07 – Problem Identification and Resolution

The inspectors observed concrete and reinforcing steel placement, reviewed documents and applicable design drawings and specifications, and interviewed licensee personnel to verify construction activities were being conducted in accordance with design documents and applicable processes and procedures. Specifically, the inspectors verified:

- 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 quality control activities were being performed in accordance with design specifications and approved procedures;
- deviations from the design due to as-built conditions were identified and documented appropriately; and
- records reflected that completed work met design specifications and acceptance criteria.

The inspectors performed independent measurements and observations on sample areas of the containment internal structures for the proposed Unit 2 nuclear island structures. Specifically, the inspectors observed the reinforcing steel placement in the containment vessel bottom head from elevation 66'-6" to 71'-6"; including horizontal reinforcing bars, shear reinforcement, shrinkage and temperature reinforcing steel, wall dowels, and embedments. The inspectors also observed concrete placement activities in the containment vessel bottom head from elevation 66'-6" to 71'-6". Additionally, the inspectors reviewed various documents within the work packages and design control documents for the concrete and reinforcing steel, to verify:

- reinforcing steel was controlled and placement was performed in accordance with the applicable specifications, codes, drawings, and procedures;
- contractors had approved implementing procedures;
- reinforcing steel and embedment installation was controlled and performed in accordance with the applicable specifications, codes, drawings, and procedures;
- reinforcing steel and embedment plates were located properly in the structure, secured, free of concrete or excessive rust, and have proper clearances;

- procedures clearly prescribed acceptable methods of quality control inspection and included appropriate acceptance criteria;
- reinforcing steel conformed to design drawings with no deviations from design;
- 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, Engineering and Design Coordination Reports (E&DCR's), non-conformance reports and corrective action reports associated with the rebar installation to determine whether:

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

b. Findings

No findings were identified.

1A06 (Unit 2) ITAAC Number 761 / Family 01F

a. Inspection Scope

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
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.	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.	A report exists which reconciles deviations during construction and concludes that the as-built shield building structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

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

- 65001.01-02.02 – Foundation Work

The inspectors observed grout placement for the Unit 2 containment vessel bottom head to determine whether the placement was in accordance with the applicable specifications, drawings, procedures and codes. Specifically, the inspectors observed the injection of grout between the bottom head and the reinforced concrete pedestal in the shield building area of the two foot depressed area of the basemat. The inspectors observed the in-process testing associated with the mix and method of placement of grout material. Temperature measurements and mixing times were observed to verify vendor requirements were met. The inspectors also ensured the gap between the bottom head and the pedestal was completely filled and conformed to the following WEC design drawings:

- VS2-1010-CR-101, “Nuclear Island Basemat Reinforcement Area Below Containment Vessel Installation Sequence,” Revision 3;
- VS2-0000-C9-001, “AP1000 Concrete General Notes,” Revision 2;
- VS2-1010-CR-103, “Nuclear Island Basemat Reinforcement Area Below Containment Vessel Section A-A,” Revision 3;
- VS2-1010-CR-004, “Nuclear Island Basemat Reinforcement Area Below Containment Vessel Section B-B,” Revision 2;
- VS2-1010-CR-107, “Nuclear Island Basemat Reinforcement Area Below Containment Vessel Construction Joints” Revision 1; and
- VSG-1000-CC01-VLD-800007, “FS Fluid Grout 100,” Revision 0.

The inspectors reviewed work package VS2-1110-CCW-001(i), “Grout Placement” Revision 2, to determine whether quality controls were established and adhered to, such as quality control inspection hold points and routine inspections. The inspectors also reviewed field grout data records, and compression test data records to determine whether quality and strength requirements were achieved as specified by WEC.

b. Findings

No findings were identified.

1A07 (Unit 2) ITAAC Number 763 / Family 01F

a. Inspection Scope

During the week of July 8th, 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
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.	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.	A report exists which reconciles deviations during construction and concludes that the as-built structures in the radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

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

- 65001.01-02.01 – Procedures
- 65001.01-02.06 – Records
- 65001.01-02.07 – Identification and Resolution of Problem
- 65001.F-02.02 – Design Inspections
- 65001.F-02.03 – On-Site Fabrication Activities
- 65001.F-02.04 – Problem Identification and Resolution
- 65001.02-02.01 – Inspection of Concrete Placement
- 65001.02-02.07 – Problem Identification and Resolution
- 65001.B-02.01 – Program and Procedures Review
- 65001.B-02.02 – Welding Procedure Qualification
- 65001.B-02.04 – Production Controls
- 65001.B-02.05 – Inspection
- 65001.B-02.06 – Records
- 65001.02-02.06 – Record Review

The inspectors observed the installation of safety-related reinforcing steel associated with wall line I from column line 1 to 4 from elevation 66'6" to 82' 6" of the radiologically controlled area of the auxiliary building. The inspectors performed independent measurements and observations of a sample of the in-process reinforcing steel to verify:

- conformance with drawings, including configuration, size, count, spacing, and length;
- key building critical dimensions and materials satisfied design requirements; and
- the reinforcing steel was located properly within the structure, secured, free of concrete and excessive rust, and had proper clearances.

Additionally, the inspectors reviewed procedures APP-CR01-Z0-011, "Furnishing of Safety Related Reinforcing Steel", and NCSP-3-42, "Reinforcing Steel", to verify:

- reinforcing steel installation was controlled and performed in accordance with applicable specifications, codes, drawings, and procedures; and
- procedures clearly prescribe acceptable methods of quality control inspection and include appropriate acceptance criteria.

The inspectors observed ongoing welding activities associated with the auxiliary building (CA20) sub-modules CA20-01 and CA20-05 to verify they were conducted in accordance with the CB&I welding program and procedures. These activities included weld build up and milling. The inspectors reviewed CB&I's welding program, CWP-1, "Construction Welding Program", to verify the weld repair program was sufficient to meet the design requirements of the CA20 module. Additionally, the inspectors reviewed the weld repair work packages, including installation records, to verify the records reflected that completed work satisfied design specifications and acceptance criteria. The inspectors reviewed subcontractor procedures included in the work packages to verify contractors had approved implementing procedures that conformed to CWP-1 and the CB&I Quality Assurance Program Document (QAPD).

The inspectors interviewed licensee personnel and verified design and installation of the walls of the radiologically controlled area of the auxiliary building were accomplished in accordance with design documents, applicable processes, and procedures. In addition, the inspectors reviewed the corrective action program, E&DCRs, and condition reports associated with the radiologically controlled area of the auxiliary building walls reinforcing steel and the CA20 module to determine whether:

- the licensee was identifying problems at an appropriate threshold and was entering them into the corrective action program;
- the licensee had established an effective method for tracking, evaluating, and dispositioning changes or modifications to the design;
- functional assessments, engineering evaluations, and other design reports were consistent with safety significance and inspection resources;
- nonconforming material was adequately identified and segregated; and
- deviations from requirements and nonconforming conditions were appropriately resolved.

b. Findings

No findings were identified.

1A08 (Unit 2) 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. The inspectors used the following NRC inspection procedures to perform this inspection:

- 65001.02-02.01 – Inspection of Concrete Placement
- 65001.02-02.07 – Problem Identification and Resolution

The inspectors observed safety-related reinforcing steel (rebar) installation and concrete placement associated with the Unit 2 nuclear island walls in the radiologically controlled area of the axillary building from elevation 66' 6" to approximately 82' 6" to determine whether the rebar installation was in accordance with the applicable specifications, drawings, procedures and codes. The inspectors also verified that the rebar was correctly secured in the right locations and had the proper clearances.

Specifically, the inspectors observed the installation of wall I from column line 1 to column line 4. During this inspection, the inspectors referenced the applicable code sections of American Concrete Institute (ACI) 349-01, "Code Requirements for Safety Related Concrete Structures," as well as the following WEC design drawings:

- VS2-1210-CR-954, "Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall I Section and Details EL 66'-0"," Revision 1;
- VS2-1210-CR-953, "Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall 4 Sections and Details EL 66'-6"," Revision 1; and
- VS2-1210-CR-951, "Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall 2 Sections and Details EL 66'-6"," Revision 1.

The inspectors observed this rebar to determine whether the rebar spacing, size, and count conformed to the above drawings. The inspectors also verified that the lap splice lengths were consistent with the requirements of ACI 349-01 code and the drawings listed above. In addition, the inspectors reviewed inspection reports for the installation of mechanical couplers onto threaded rebar that were installed in the wall and the associated test records for the tensile tests to determine if the production splices were tested in accordance with WEC specification APP-CR01-Z0-010, "Specification for Supply and Installation of Mechanical Splices for Reinforcing Steel," Revision 6.

The inspectors performed document reviews, observations and independent measurements on sample areas of the wall to verify if:

- 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; and
- fresh concrete tests; including slump, air content, temperature, and unit weight; were performed at the appropriate intervals.

b. Findings

No findings were identified.

1A09 (Unit 2) ITAAC Number 763 / Family 01Fa. Inspection Scope

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 inspection procedures/sections to perform this inspection:

- 65001.01-02.05 – Steel Structures
- 65001.B-02.02 – Welding Procedure Qualification
- 65001.B-02.03 – Welder Qualification
- 65001.B-02.04 – Production Controls

The inspectors observed in-process welding associated with the auxiliary building module CA20-10 and CA20-11 field welds FW-0507 and FW-0511. The inspectors observed welding, reviewed welding procedure qualifications, welder qualifications, and production controls to determine if the activity was being performed in accordance with the applicable work package, VS2-CA20-S4W-02001, and the requirements of AWS D1.1-2000 (the applicable code). To accomplish these tasks, the inspectors verified:

Welding Procedure Qualification:

- WPS 2-1.1M71, Revision 0, was qualified in conformance with applicable code requirements, available to the welder performing the work, and up to date and accurate;
- welding positions qualified for the WPS were in accordance with the applicable code;
- the type and number of qualification tests required to qualify the WPS for the given thickness were specified and conformed to the requirements of the applicable code; and
- the WPS specified all the applicable essential, nonessential supplementary variables referenced in the code. The specific range of values of the WPS variables were consistent with PQRs SP154, Revision 0 and SP160, Revision 0.

Welder Qualification:

- the welder demonstrated welding skills by performing specific performance qualification tests prescribed by the applicable code; and
- the welders had used the welding process within the last six months to maintain their qualification.

Production Controls:

- work was conducted in accordance with an approved traveler, WPS, work package, and drawings SK-130242-01 and VS2-CA20-55-00205; and
- the identification of welds and welders was maintained.

The inspectors reviewed the certificate of conformance and certified material test report for the weld wire being used to determine if the material was supplied in accordance with the requirements of the applicable code, 10 CFR Part 21 and 10 CFR Part 50, Appendix B.

b. Findings

No findings were identified.

1A10 (Unit 2) ITAAC Number 763 / Family 01Fa. Inspection Scope

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 inspection procedures/sections to perform this inspection:

- 65001.02-02.01 – Inspection of Concrete Placement; and
- 65001.02-02.07 – Problem Identification and Resolution.

The inspectors observed the size, spacing, and configuration of the vertical, horizontal, and transverse reinforcement in wall I area 5 from elevation 66'-6" to elevation 82'-6" to determine whether the construction was in accordance with the applicable construction specifications and drawings. The inspectors also verified that the reinforcement was adequately secured to prevent movement during concrete placement, the concrete cover was within tolerances, and lap splices met minimum requirements.

b. Findings

No findings were identified.

1A11 (Unit 2) ITAAC Number 763 / Family 01Fa. Inspection Scope

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 inspection procedures/sections to perform this inspection:

- 65001.01-02.05 – Steel Structures
- 65001.01-02.07 – Identification and Resolution of Problem
- 65001.02 – Inspection of ITAAC-Related Installation of Structural Concrete

The inspectors performed a visual inspection of the following as-fabricated CA20 sub-modules:

- CA20-10;
- CA20-11;
- CA20-12;
- CA20-14;
- CA20-15;
- CA20-16; and
- CA20-73.

The inspectors examined these sub-modules to determine if:

- the as-fabricated condition matched the applicable design drawings with respect to layout and dimensions;
- the design requirements and the as-fabricated condition are in accordance with licensing basis code commitments; and
- the welding met code and quality requirements.

The inspectors reviewed fabrication records from CB&I-Lake Charles to determine if each weld was traceable to the welder. In addition, the inspectors reviewed the following nonconformance and disposition reports to determine if non-conformances were appropriately being captured by the source inspectors and properly documented as exceptions on the certificate of conformance:

- APP-CA20-GNR-850054, CA20-12 VS2 Stud Deficiencies DCP_SMP_002490;
- APP-CA20-GNR-850057, CA20-14 VS2 Stud Deficiencies DCP_SMP_002493; and
- APP-CA20-GNR-850047, CA20-16 Rebar Clearance DCP-SMP-002517.

The inspectors observed repairs to sub-modules CA20-01, CA20-03, and CA20-05 as a result of issues identified in WEC issue report 12-230-M004. The inspectors reviewed work package VS2-CA20-SLW-001, "CA20 Sub-Assembly 1 Faceplate Weld Repairs," for adequacy and observed in-process work to verify procedure compliance.

b. Findings

No findings were identified.

1A12 (Unit 2) ITAAC Number 774 and 814 / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02f (774) and 3.3.00.09 (814):

ITAAC	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
774	The key dimensions of nuclear island structures are defined on Table 3.3-5.	An inspection will be performed of the as-built configuration of the nuclear island structures.	A report exists and concludes that the key dimensions of the as-built nuclear island structures are consistent with the dimensions defined on Table 3.3-5.
814	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 inspection procedures/sections to perform this inspection:

- 65001.01-02.04 – Key Dimensions and Volumes
- 65001.01-02.06 – Records

The inspectors measured the dimension between the bottom of module KQ11, reactor cavity sump, and the top surface of the containment vessel bottom head to determine whether the key dimensions of Appendix C, Table 3.3-5, of the V.C. Summer Unit 2 combined license were met. The inspectors reviewed measurement documentation VS2-KQ11-MTK-002, "Verification for Unit 2 Module 1110/KQ11 WLS Sump Pump Structural Interfaces," Revision A, to determine if data acquired from dimensional survey points for the distance between the bottom of module KQ11 and the top surface of the containment vessel bottom head were recorded and matched the actual construction.

b. Findings

No findings were identified.

1A13 (Unit 3) ITAAC Number 761, 762, and 763 / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.b (761), 3.3.00.02a.i.c (762), and 3.3.00.02a.i.d (763):

ITAAC	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
762	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.	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.	A report exists which reconciles deviations during construction and concludes that the as-built structures in the non-radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

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

- 65001.02-02.01 – Inspection of Concrete Placement
- 65001.02-02.07 – Problem Identification and Resolution

The inspectors observed the size, spacing, and configuration of the bottom reinforcement layers (layers one and two) in portions of the following areas of the Unit 3 nuclear island basemat at approximately elevation 60'-6":

- shield building for ITAAC 761;
- non-radiologically controlled areas of the auxiliary building for ITAAC 762; and
- radiologically controlled areas of the auxiliary building for ITAAC 763.

The inspectors performed this review to determine whether the construction was in accordance with the applicable construction specifications and drawings. The inspectors also verified that the reinforcement was adequately secured to prevent movement during concrete placement, the concrete cover was within tolerances, and lap splices met minimum requirements.

b. Findings

No findings were identified.

1A14 (Unit 3) ITAAC Number 762 and 763 / Family 01Fa. Inspection Scope

During the week of July 8th, the inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.c (762) and 3.3.00.02a.i.d (763):

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

- 65001.01-02.01 – Procedures
- 65001.01-02.06 – Records
- 65001.01-02.07 – Identification and Resolution of Problem
- 65001.F-02.02 – Design Inspections
- 65001.F-02.03 – On-Site Fabrication Activities
- 65001.F-02.04 – Problem Identification and Resolution

The inspectors observed the installation of safety-related reinforcing steel associated with portions of the basemat within the following area of the auxiliary building:

- non-radiologically controlled area (ITAAC Number 762); and
- radiologically controlled area (ITAAC Number 763).

The inspectors performed independent measurements and observations of a sample of the in-process reinforcing steel for layers one and two to verify:

- conformance with drawings, including configuration, size, count, spacing, and length;
- key building critical dimensions and materials satisfied design requirements; and
- reinforcing steel was located properly within the structure, secured, free of concrete and excessive rust, and had proper clearances.

The inspectors reviewed the basemat reinforcing steel installation work package, including installation records, to verify the records reflected that completed work satisfied design specifications and acceptance criteria. The inspectors reviewed a sample of approved specifications and implementing procedures to verify:

- the reinforcing steel was controlled and installed in accordance with applicable specifications, codes, drawings, and procedures; and
- procedures clearly prescribed acceptable methods of quality control inspection and include appropriate acceptance criteria.

The inspectors interviewed licensee personnel and verified design and installation were accomplished in accordance with design documents, applicable processes, and procedures. In addition, the inspectors reviewed the corrective action program, E&DCRs, and condition reports associated with the non-radiologically controlled area of the auxiliary building basemat reinforcing steel to determine whether:

- the licensee was identifying problems at an appropriate threshold and was entering them into the corrective action program;

- the licensee had established an effective method for tracking, evaluating, and dispositioning changes or modifications to the design;
- functional assessments, engineering evaluations, and other design reports were consistent with safety significance and inspection resources;
- nonconforming material was adequately identified and segregated; and
- deviations from requirements and nonconforming conditions were appropriately resolved.

b. Findings

No findings were identified.

1P01 Quality Assurance Implementation, Appendix 3 Inspection of Criterion III – Design Control (35007)

.1 (Closed) URI 05200027/2013003-01, Duplicated E&DCRs

a. Inspection Scope

During this inspection period, the inspectors interviewed licensee and contractor personnel and reviewed documents related to the issues identified in unresolved item (URI) 05200027/2013003-01, Duplicated E&DCRs.

This URI was previously opened because the inspectors identified an example where a superseded E&DCR had not been replaced in CB&I's site data center with form F-APP-GW-GAP-420-3 as required by APP-GW-GAP-420, "Engineering and Design Coordination Report", Section 9 "Voiding or Superseding an E&DCR". This resulted in two valid designs existing in the system. The URI was opened because more information was required to determine if the performance deficiency was more-than-minor.

Westinghouse created issue report 13-148-M020 and performed an extent of condition to identify other instances where E&DCRs were not properly superseded in the site data center. The inspectors reviewed the results of the extent of condition and reviewed documents in the field to determine if the performance deficiency had rendered the quality of an SSC unacceptable or indeterminate.

The E&DCRs in the field that were not replaced with form F-APP-GW-GAP-420-3 were administrative holds placed on drawings limiting the work that could be completed in the field prior to lifting the hold. Although the technical issues had been resolved and the hold was no longer necessary, WEC document control considered it conservative to leave the hold in the site data center until the field informed WEC that work had been completed up to the hold point. The forms would then be sent to the site data center releasing the hold. The inspectors concluded that safety significant E&DCRs were being handled appropriately by the consortium and WEC was revising procedures to specify that void/supersede forms are to be sent to the site data centers upon completion in lieu of site need. URI 05200027/2013003-01 is closed.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors observed receipt inspection of the reactor pressure vessel and the reactor pressure vessel head to determine whether they were both inspected in accordance with design specification and procedure requirements. During the receipt inspection, the inspectors examined the storage facility to determine whether storage class B requirements were met. Additionally, the inspectors examined the exterior material condition of the vessel, the removal of lifting lugs from the vessel flange stud holes, and verified proper operation of the required nitrogen purge on the vessel head.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed drawings and weld travelers for the H02 maintenance hatch for Unit 2 containment vessel ring 1. The inspectors verified that the measurements recorded were within allowable tolerance for azimuth and elevation and plumb measurements. The inspectors visually verified that the azimuth measurement matched that recorded on the traveler and the drawings.

b. Findings

No findings were identified.

1P04 Quality Assurance Implementation, Appendix 16 Inspection of Criterion XVI – Corrective Action (35007)

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

The inspectors reviewed applicable sections of the licensee's QAPD, UFSAR and the associated implementing documents concerning identification, evaluation and resolution of conditions adverse to quality. The inspectors reviewed licensee procedure NND-AP-0002, "Corrective Action and Trending," CB&I procedure QS-16.5, "Corrective Action System," and WEC procedure WEC-16.2, "Corrective Actions Process," to determine whether the licensee and its contractors had established adequate measures to assure that conditions adverse to quality were promptly identified and corrected.

The inspectors selected a sample of issues entered in the corrective action programs to determine if the handling of these issues was consistent with the applicable QAPD requirements and 10 CFR Part 50, Appendix B. Specifically, the inspectors reviewed licensee, CB&I, and WEC corrective action documents.

As part of the various inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during inspection activities and construction status reviews to verify they were being entered into the appropriate corrective action programs 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:

- identification of the problem was complete and accurate;
- timeliness was commensurate with the safety significance;
- evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and
- classification, prioritization, focus, and timeliness of corrective actions were commensurate with their safety significance and sufficient to prevent recurrence of the issue.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

The inspectors performed routine screenings of issues entered into the licensee, CB&I, and WEC's corrective action programs to determine whether conditions adverse to quality were controlled in accordance with each company's quality assurance program and whether potential adverse trends were appropriately identified and corrected by the licensee or their contractors. The inspectors screened corrective action records associated with both Units 2 and 3. Specifically, the inspectors:

- attended weekly management review committee meetings;
- reviewed a sample of licensee, CB&I, and WEC corrective action documents; and
- held discussions with personnel responsible for the screening and correction of the issues.

The inspectors verified that the licensee, CB&I, and WEC identified and implemented corrective actions commensurate with the significance of the issue; and were identifying equipment, human performance, and program issues at an appropriate threshold and entering them into their respective corrective action programs.

The inspectors selected a sample of the routine issues to verify that the issues were appropriately classified and that short-term corrective actions were appropriate to the issues.

b. Findings

No findings were identified.

.3 Selected Issues for Follow-Up Inspection

a. Inspection Scope

The inspectors selected a sample of issues entered in the licensee, CB&I, and WEC's corrective action programs to determine if the issues were dispositioned consistent with the applicable QAPD requirements and 10 CFR 50, Appendix B. The inspectors reviewed 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: (1) the cause was determined, (2) corrective actions were taken to prevent recurrence, and (3) the cause and corrective actions taken were documented and reported to appropriate levels of management;
- conditions were appropriately screened;
- the organization 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.

Specific documents reviewed for this inspection are included in the attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA5 Follow-up of Licensee Reports and NOV's

.1 (Closed) VIO 05200027/2012005-02, 05200028/2012005-02, Failure to Adequately Implement Procedure Guidance for Evaluating, Classifying, and Correcting Conditions Adverse to Quality

The inspectors reviewed the licensee's activities to address violation (VIO) 05200027/2012005-02, 05200028/2012005-02, Failure to adequately implement procedure guidance for evaluating, classifying, and correcting conditions adverse to quality. The inspectors reviewed revised corrective action implementing documents and

determined that the licensee resolved the identified inconsistencies that contributed to the failure to adequately evaluate, classify, and correct conditions adverse to quality. Specifically, the inspectors reviewed procedure QS 16.5, "Corrective Action Program," Revision 1 (the current revision) and Revision D (the revision in effect at the time the violation occurred). The inspectors also reviewed the completed extent of condition evaluation and determined that it was completed commensurate with the significance of the identified issue.

The inspectors reviewed condition report (CR) CR-NND-12-00793 and corrective action report (CAR) CAR 2012-1509 which were written to address this violation by the licensee and CB&I, respectively. The inspectors concluded that the corrective action documents adequately identified, evaluated, and corrected the identified deficiency described in this violation. Consequently, the inspectors determined the licensee took adequate corrective actions to address this violation. VIO 05200027/2012005-02, 05200028/2012005-02 is closed.

.2 (Closed) VIO 05200027/2012005-03, 05200028/2012005-03, Failure to Adequately Evaluate and Correct Conditions Adverse to Quality

The inspectors reviewed the licensee's activities to address VIO 05200027/2012005-03, 05200028/2012005-03, Failure to adequately evaluate and correct conditions adverse to quality, to ensure that the identified deficiencies were corrected. The inspectors reviewed the corrective action document that the licensee initiated to document this violation, CR-NND-12-00792, and determined that the corrective actions adequately covered all three examples. Because each example was further documented in individual corrective action documents, the inspectors also reviewed those documents as described below:

Example 1 (CAR 2012-0239):

As documented in the violation, the inspectors identified that the licensee did not provide training to design engineers which was a corrective action in CAR 2012-0239. The licensee entered this issue into their corrective action program as CAR 2012-1510 to provide the applicable training. The inspectors reviewed training attendance records and compared a sample of personnel in the affected departments to the listed attendees and determined that the applicable staff was included in the training. Additionally, the inspectors reviewed the programmatic actions that the licensee implemented to increase oversight and accountability over open corrective action documents, as documented in CAR 2012-1510, and determined that the actions appropriately addressed the contributing cause of the violation.

Example 2 (CAR 2011-01-27-1040):

As documented in the violation, the inspectors identified that the licensee did not reconcile missing and conflicting revisions to structural welding codes in design documents as required by CAR 2011-01-27-1040. Specifically, WEC design specification APP-SS-Z0-008, "Shop Fabrication of Safety Related Structural Steel," Revision 1, erroneously referenced the 2007 Edition of AWS D1.6 instead of the 1999 Edition.

The licensee entered this issue into their corrective action program as CARs 2012-1488 and 2012-1489 to revise the documents, as applicable. The inspectors reviewed these two CARs and determined that APP-SS-Z0-008 was appropriately revised.

Example 3 (CAR 2010-10-14-879):

This example documented a condition where field engineers deviated from procedure when they authorized the installation of unapproved designs but failed to take corrective actions to address the failure to follow procedures. CB&I initiated CAR 2012-1513 to address the failure to follow procedures. The inspectors concluded that the licensee's actions to address this issue were adequate and commensurate with the significance of the identified issue.

The inspectors concluded that the applicable corrective action documents adequately identified, evaluated, and corrected the identified deficiencies described in all three examples of this violation. Consequently, the inspectors determined the licensee took adequate corrective actions to address this violation. VIO 05200027/2012005-03, 05200028/2012005-03 is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 22, 2013, the inspectors presented the inspection results to Mr. A. Paglia, Manager, Nuclear Licensing, New Nuclear Deployment, 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

Licensee and Contractor Personnel

J. Ashe, CB&I QC Supervisor
C. Baucom, CB&I Licensing Engineer
M. Burley, WEC Quality Oversight
E. Elam, CB&I Project Controls Manager
R. Helmandollar, SCE&G Vendor Oversight
J. Hjelseth, WEC Acting VP, VC Summer Project
W. Hutchins, WEC Licensing Manager
J. Johnson, CB&I Quality Assurance Manager
R. Jones, SCE&G VP New Nuclear Deployment
D. Lavigne, SCE&G Operational Readiness
F. Lemieux, CB&I Quality Director
B. McIntyre, WEC Director, Site Project Licensing & Regulatory Support
A. Rice, SCE&G Licensing Engineer
F. Salter, SCE&G Licensing Engineer
G. Sanders, SCE&G Licensing Engineer
B. Stokes, SCE&G General Manager of Engineering
A. Torres, SCE&G General Manager of Construction
B. Wood, CB&I Site Director

NRC Personnel

M. Ernstes, Chief, Construction Projects Branch 4, Division of Construction Projects

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

05200027/2013003-01	URI	Duplicated E&DCRs (Section 1P01.1)
05200027/2012005-02, 05200028/2012005-02	VIO	Failure to Adequately Implement Procedure Guidance for Evaluating, Classifying, and Correcting Conditions Adverse to Quality (Section 4OA5.1)
05200027/2012005-03, 05200028/2012005-03	VIO	Failure to Adequately Evaluate and Correct Conditions Adverse to Quality (Section 4OA5.2)

DOCUMENTS REVIEWED

Section 1A01:

WEC, VSG-MV01-Z5-003, Appendix 3 Technical Requirements for the AP1000 Reactor Vessel Purchase Order for the V.C. Summer Plant Project, Rev. 6

WEC, APP-MV01-Z0-101, Design Specification for AP1000 Reactor Vessel For System: Reactor Coolant System (RCS), Rev. 10

Doosan, Purchase Order 2010024769, U.S. AP1000 Vogtle and V.C. Summer RPV for ASME Submerged Arc Welding (SAW) wire and flux

Doosan, Purchase Specification PS-11102AA, General Purchasing Requirements for Standard AP1000 Project, Rev. 4

Doosan, ASME Code Data Report Form N-2 for V.C. Summer #2 Reactor Vessel Assembly, Part Serial Number N08032-10101, National Board Number DN-3120

Doosan, CMTR CN2009080006, Rev. 2, ASME SA-508, Grade 3, Class 1, Heat-Nos. 2C95420, 2C95421, and 2B95422 for the Upper Shell of the AP1000 V.C. Summer Unit 2 Reactor Vessel, ID-No. F08697 010

Doosan, CMTR CN2010090027, Rev. 1, ASME SA-508, Grade 3, Class 1, Heat-Nos. 2B07149 and 2C07150 for the Lower Shell of the AP1000 V.C. Summer Unit 2 Reactor Vessel, ID-No. F09157 010

Doosan, CMTR CN2010100009, Rev. 1, ASME SA-508, Grade 3, Class 1, Heat-Nos. 2C07262 and 2B07263 for the Transition Ring of the AP1000 V.C. Summer Unit 2 Reactor Vessel, ID-No. F09159 010

Kobe Steel, CMTR KN-1482, dated 1/07/2011, for ASME Section II, Part C, SFA-5.23, SAW wire with ID-No. GZ005499727 and flux ID-No. OLG610.

Chosun Welding Co., Ltd., CMTR TR-P1066, dated 11/04/2010, for ASME Section II, Part C, SFA-5.5, SMAW electrodes with Lot-No. P244217

Doosan, WPS, A-MA-0303-216, Rev. 1, dated 5/31/2010, with supporting PQRs QA-M-0303-044 dated 5/24/2010, QA-A-0303-032 dated 11/25/1999, and QA-A-0303-032-1 dated 5/31/2010 for Shielded Metal Arc Welding (SMAW) and Submerged Arc Welding (SAW) on P-No. 3 Group-No. 3 material combinations with Postweld Heat Treatment (PWHT).

Doosan, WPS, A-M-0303-152, Rev. 1, dated 5/24/2010, with supporting PQR QA-M-0303-044, dated 5/24/2010 for SMAW only on P-No. 3 Group-No. 3 material combinations with PWHT.

Section 1A02:

Procedures:

CMS-830-15-PR-45154, Radiographic Examination ASME Section III, Division 1 - Subsection NE, rev.1

IHI WPS IT-1119G, External Stiffener GMAW and GTAW, rev.1

IHI WPS I-11R3G, External Stiffener GMAW, rev.4

CMS-830-15-PR-45160, Magnetic Particle Examination, Color Contrast, Dry Yoke, ASME Section III, Division 1 – Subsection NE, rev 1

CMTRs and CoCs:

CMTR 6082-9, External Stiffener Heat no.5-8199 plate no. HW137 A, 12/08/2010

CMTR 6082-12, External Stiffener Heat no.5-5151 plate no. JP062 A, 12/08/2010

CMTR 6082-13, External Stiffener Heat no.5-5152 plate no. JK055 A, 12/08/2010

CMTR 6082-14, External Stiffener Heat no.5-4522 plate no. J8260 A, 12/08/2010

CMTR RINJQ-229-2-7, External Stiffener filler material heat no. 0Q7529(1), 06/08/2012

CMTR RINJQ-229-2-1, External Stiffener filler material heat no. 9L7978(1), 06/06/2012

PO 22404, Radiographic IQIs CoC from High Tech Supplies, Inc, 07/06/2011
 PO 710033, Radiographic IQIs CoC from Precision Images, LLC, 07/07/2011
 PO 736711 rev.1, Radiographic IQIs CoC from Precision Images, LLC, 12/19/2011
 PO 736711 rev.1, Radiographic IQIs CoC from Precision Images, LLC, 01/16/2012
 PO A63261, Radiographic IQIs CoC from Test Equipment Distributors, 11/20/2012

NDE Reports:

VCS-U2-2013-RT-109, B13 Insert to S2/S3 Plates RT report, 06/27/2013
 VCS-U2-2013-RT-110, B14 Insert to S2/S3 Plates RT report, 06/25/2013
 VCS-U2-2013-RT-116, S7 Vertical Seam D RT report, 07/09/2013
 VCS-U2-2013-RT-133, S6 to S7 Girth Seam S6 D to S6 E RT report, 07/30/2013
 VCS-U2-2013-RT-134, S6 to S7 Girth Seam S6 E to S6 F RT report, 07/30/2013
 MT-0004-AW-WB2-F4-31~36, IHI MT report for external stiffener welds, 09/29/2011
 RT-004-WB2-F4-11,12, IHI RT report for external stiffener welds, 09/08/2011
 RT-004-WB2-F1~5-21,22, IHI RT report for external stiffener welds, 08/17/2011

Drawings:

221A501, IHI Detail Drawing of External Stiffener B2-F1~F10 Assemblies, rev. 3

Corrective Action Documents:

VC-055, NCR for Wire IQI wire diameters exceeding the required tolerances in ASTM E747, rev. 0

Section 1A03:

Weld Traveler, Shell Plates B2-C to B2-D
 Certified Material Test Report 5283090, FCAW Electrode 91K2-HSR, Lot No. 1075G, Dated 05/23/2013
 WPS E91TG-H4, Revision 8
 Procedure 164621-000-15-SP-015003, General Welding Specification for the Flux Cored Arc Welding Process, Rev. 0
 Welder Performance Qualification for Welder Numbers 3294041 and 909994
 Procedure Qualification Record 12690
 Procedure Qualification Record 12691
 Level II NDE Certification for Inspector ID Number 2042693
 Procedure CMS-830-15-PR-45160, Magnetic particle Examination Color Contrast, Dry Yoke, ASME Section III, Division 1 - Subsection NE, Rev. 1

Section 1A04:

Drawings:

APP-CA04-11-04-000-p52, CA04-04 shop drawing, rev. 0
 APP-CA04-11-04-000-0401, 402, 405, CA04 shop drawings, rev. 0
 APP-CA04-S5B-04001, CA04-04 Bill of Materials, rev. 3
 APP-CA04-S5-04001 thru 04007, CA04 design drawings
 APP-CA04-S4-001 thru 004, CA04 isometric views
 APP-GW-S9-100 thru 106, AP1000 Structural Modules General Notes
 APP-GW-S9-300, AP1000 Structural Modules Standard Weld Details, rev. 5

Procedures:

QAD 9.53, Ultrasonic Examination of Structural Welds per AWS D1.1, revision 2

Welding Procedure Specifications

GWS-2, AWS D1.1 Structural Steel, General Welding Specification, rev. 1
 WPS2-1.1M01, GMAW, rev. 0
 WPS2-1.1M70, GMAW-machine, rev.0
 WPS2-1.1T70, GTAW, rev. 1
 WPS2-1.1F01, FCAW, rev. 0
 WPS2-1.1S01, SMAW, rev. 1
 WPS6-1.1SW01, Stud, rev. 2

Certified Material Test Reports:

132177-CMTR-10-000237, ASTM A36, rev.0
 132177-CMTR-10-000139, ASTM A36, rev.0
 132177-CMTR-10-000019, ASTM A36, rev.0
 132177-527363-404-012-00006, ASTM A36 backing bar, rev. 0
 132177-112-013-132177-FPR12-03574-1111P, ER70S-6, rev.0

Corrective Action Documents:

CR-NND-13-00915, Welders not checking interpass temperature, 9/4/2013
 CAR 2013-1498, Welders not checking interpass temperature, 9/4/2013

Miscellaneous:

132177-WF-2581875, CA04-04 supplier fabrication record, rev. 0
 DMD-M-NS-51870SXGMAW, ER70S-X Carbon Steel Bare Wire Welding Filler Material
 Procurement Specification, rev.0
 V2-13-W-U-063, Record of AWS Examination, rev. 001
 NDT Certification Report, C. Godfrey, Ultrasonic Testing Level II, 5/11/2012

Section 1A05:Westinghouse Drawings:

APP-0000-C9-001, Rev. 7, AP1000 Concrete General Notes
 APP-0000-C9-002, Rev. 4, AP1000 Concrete General Notes
 APP-1110-CR-002, Rev. 4, Containment Concrete Reinforcement Bottom Reinf Up To EL 100'-00" Layer A/B/C General Plan View
 APP-1110-CR-006, Rev. 4, Containment Concrete Reinforcement Bottom Reinf Up To EL 100'-00" Sections and Details
 APP-1110-CR-501, Rev. 5, Containment Concrete Reinforcement Up To EL 71'-6" KQ11 Plan & Sects at EL 69'-8"
 APP-1110-CR-502, Rev. 5, Containment Concrete Reinforcement Up To EL 71'-6" KQ11 Plan & Sects at EL 73'-8 1/2"
 APP-1110-CR-504, Rev. 5, Containment Concrete Reinforcement Thru EL 71'-6" Vertical Dowel Layout
 APP-1110-CR-505, Rev. 5, Containment Concrete Reinforcement Up To EL 71'-6" Horizontal Bars Plan
 APP-1110-CR-508, Rev. 5, Containment Concrete Reinforcement Up To EL 71'-6" Sections
 APP-1110-CR-510, Rev. 3, Containment Concrete Reinforcement Up To EL 71'-6" CA04 Vertical Dowel Spacing
 APP-1110-CR-511, Rev. 3, Containment Concrete Reinforcement Up To EL 71'-6" CB65/66 Vertical Dowel Spacing

APP-1110-CR-512, Rev. 2, Containment Concrete Reinforcement Up To EL 71'-6" Sections and Details

Site Specific Drawings:

VS2-1110-CC-120, Containment/Shield Buildings Concrete Floor @ El. 71'-6" Areas 1 and 2, Rev. 1
 VS2-1110-CC-340, Containment/Shield Buildings Concrete Floor @ El. 71'-6" Areas 3 and 4, Rev. 1
 VS2-1110-CCK-001, Construction Joint Sketch @ El. 71'-6", Rev. 2
 VS2-1100-CE-001, Containment Concrete Embedment at El. 71'-6" Plan View, Rev. 2
 VS2-1100-CE-002, Containment Concrete Embedment at El. 71'-6" Non-Standard Embedment Details, Rev. 2
 VS2-1100-CEB-001, Containment Concrete Embedment at El. 71'-6" Bill of Material, Rev. 2
 VS2-1100-CEX-001, Containment Concrete Embedment at El. 71'-6" Drawing Index, Rev. 2
 VS2-1100-CR-003, Containment Concrete Reinforcement Bottom Reinf. Up to El. 100'-0" Layer A Plan View, Rev. 2
 VS2-1100-CR-004, Containment Concrete Reinforcement Bottom Reinf. Up to El. 100'-0" Layer B Plan View, Rev. 2
 VS2-1100-CR-005, Containment Concrete Reinforcement Bottom Reinf. Up to El. 100'-0" Layer C Plan View, Rev. 2
 VS2-1100-CR-506, Containment Concrete Reinforcement up to El. 71'-6" Construction JT Reinf. Plan, Rev. 2
 VS2-1100-CR-509, Containment Concrete Reinforcement up to El. 71'-6" Sections, Rev. 2
 VS2-1100-CR-901, Containment Concrete Reinforcement Drawing Section A, Rev. 1
 VS2-1100-CR-902, Containment Concrete Reinforcement Drawing Section B, Rev. 1
 VS2-1100-CRX-01, Containment Concrete Reinforcement Bottom Reinf. Up to El. 100'-0" Drawing Index, Rev. 2
 VS2-1100-CRX-02, Containment Concrete Reinforcement Bottom Reinf. Up to El. 71'-6" Drawing Index, Rev. 2
 VS2-CE01-CE-002, Standard Embedment Plates Deformed Wire Anchor DWA Type, Rev. 2
 VS2-KQ10-B1-301, Module 1112-KQ-10 Reactor Coolant Drain Tank Structural Interfaces Plan View, Rev. 0

Gerdau Drawings:

NIC-A-1, Rev. 3, Containment Concrete Reinforcement Bot Reinf to Level 100'-0" – Layer A
 NIC-B-1, Rev. 2, Containment Concrete Reinforcement Bot Reinf to Level 100'-0" – Layer B
 NIC-C-1, Rev. 3, Containment Concrete Reinforcement Bot Reinf to Level 100'-0" – Layer C
 NIC-2-1, Rev. 2, Containment Concrete Reinforcement up to 71'-6" – Bars Below Shield Doors Support
 NIC-2-2, Rev. 3, Containment Concrete Reinforcement up to 71'-6" – Bars Below KQ11
 NIC-2-3, Rev. 2, Containment Concrete Reinforcement up to 71'-6" – Dowels @ KQ11
 NIC-2-4, Rev. 3, Containment Concrete Reinforcement Thru EL 71'-6" #11 Vertical Dowel Layout
 NIC-2-5, Rev. 2, Containment Concrete Reinforcement Thru EL 71'-6" #8 Vertical Dowel Layout
 NIC-2-6, Rev. 2, Containment Concrete Reinforcement Thru EL 71'-6" #8 Vertical Dowel Sections
 NIC-2-7, Rev. 3, Containment Concrete Reinforcement Thru EL 71'-6" Slab Top Bars - Plan
 NIC-2-8, Rev. 2, Containment Concrete Reinforcement Thru EL 71'-2 ½" Temperature Rebar Mat
 NIC-2-9, Rev. 2, Containment Concrete Reinforcement Thru EL 71'-6" Slab/Temp/Shear Sections

NIC-2-10, Rev. 2, Containment Concrete Reinforcement Thru EL 71'-6" T-Head Shear Bars – Plan

Section 1A06:

VS2-1010-CR-101, "Nuclear Island Basemat Reinforcement Area Below Containment Vessel Installation Sequence" Rev. 3
 VS2-0000-C9-001, "AP1000 Concrete General Notes," Rev. 2
 VS2-1010-CR-103, "Nuclear Island Basemat Reinforcement Area Below Containment Vessel Section A-A," Rev. 3
 VS2-1010-CR-004, "Nuclear Island Basemat Reinforcement Area Below Containment Vessel Section B-B," Rev. 2
 VS2-1010-CR-107, "Nuclear Island Basemat Reinforcement Area Below Containment Vessel Construction Joints" Rev. 1
 VSG-1000-CC01-VLD-800007, "FS Fluid Grout 100"," Rev. 0

Section 1A07:

Procedures:

APP-CR01-Z0-010, "Specification for Supply and Installation of Mechanical Splices for Reinforcing Steel", Rev. 6
 NCSP-3-44, "Mechanical Splicing of Reinforcing Steel", Rev. 0
 CSI 3-43, "Reinforcing Steel Terminators", Rev. 0
 NCSP-3-42, "Reinforcing Steel", Rev. 1
 APP-CR01-Z0-011, "Furnishing of Safety Related Reinforcing Steel", Rev. 4

Engineering & Design Coordination Reports (E&DCRs):

APP-0000-GEF-018, "Rebar Lap Splice Class A vs B Clarification", Rev. 0
 APP-1200-GEF-173, "Splices for Walls below Elevation 82'-6""", Rev. 0

Work Packages:

VS2-CA20-SLW-001, "Module CA20, Sub Assembly 1 Module Faceplate Weld Repairs", Rev. 0
 VS2-CA20-S4W-01004, "CA20 Sub Assembly 1 Faceplate Weld Repair Prep", Rev 0
 VS2-CA20-MAB-0000, "MAB Technical Document List"

Miscellaneous:

CR-NND-13-00650
 CWP-1, "Construction Welding Program", Rev. 2

Section 1A08:

Drawings:

VS2-1210-CR-954, Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall I Section and Details EL 66' 0", Revision 1
 VS2-1210-CR-953, Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall 4 Sections and Details EL 66' 6", Revision 1
 VS2-1210-CR-951, Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall 2 Sections and Details EL 66' 6", Revision 1

Specifications:

VS2-CC01-Z0-031, Safety Related Placing Concrete and Reinforcing Steel, Revision 4

APP-CR01-Z0-010, Specification for Supply and Installation of Mechanical Splices for Reinforcing Steel, Revision 6
 ACI 349-01, Code Requirements for Nuclear Safety Related Concrete Structures

Inspection Reports and Test Records:

MS-13-00091, Tensile Test Data Record (Splice), 7/15/2013
 MS-13-00098, Tensile Test Data Record (Splice), 7/23/2013
 S511-13-0129, Quality Assurance Inspection Report, 7/13/13
 S511-13-0131, Quality Assurance Inspection Report, 7/15/13
 S511-13-0145, Quality Assurance Inspection Report, 7/23/13

Section 1A09:

PQR SP154, Rev. 0
 PQR SP160, Rev. 0
 Welder Performance Qualification for welder ID SAG9657
 Certificate of Conformance No. 5183652
 WPS2-1.1M71
 Work Package VS2-CA20-S4W-0200

Section 1A10:

VS2-0000-C9-001, AP1000 Concrete General Notes, Rev 2
 VS2-0000-C9-002, AP1000 Concrete General Notes, Rev 2
 VS2-1210-CR-954, Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall I Section & Details EL 66'-6", Rev. 1
 VS2-1210-CR-902, Auxiliary Building Basemat Reinforcement Sections NS and Details EL 66'-6", Rev. 3
 VS2-1200-CR-954, Auxiliary Building Areas 5 & 6 Concrete Reinforcement Wall I Elevation, Rev. 5

Section 1A11:

Drawings:

VS2-CA20-S5-10004, Auxillary Building Areas 5 & 6 Module CA20 Submodule CA20_10 Structural Outline Vertical Sections, Rev. 0
 VS2-CA20-S5-11004, Auxillary Building Areas 5 & 6 Module CA20 Submodule CA20_11 Structural Outline Vertical Sections, Rev. 0
 VS2-CA20-S5-12004, Auxillary Building Areas 5 & 6 Module CA20 Submodule CA20_12 Structural Outline Vertical Sections, Rev. 0
 VS2-CA20-S5-14004, Auxillary Building Areas 5 & 6 Module CA20 Submodule CA20_14 Structural Outline Vertical Sections, Rev. 0
 VS2-CA20-S5-15004, Auxillary Building Areas 5 & 6 Module CA20 Submodule CA20_15 Structural Outline Vertical Sections, Rev. 0
 VS2-CA20-S5-16004, Auxillary Building Areas 5 & 6 Module CA20 Submodule CA20_16 Structural Outline Vertical Sections, Rev. 0
 VS2-CA20-S5Y-00101, Auxillary Building Areas 5 & 6 Module CA20 Standard Structural Details, Rev. 0
 VS2-CA20-S5Y-00102, Auxillary Building Areas 5 & 6 Module CA20 Standard Structural Details, Rev. 0

VS2-CA20-S5Y-00103, Auxillary Building Areas 5 & 6 Module CA20 Standard Structural Details, Rev. 0

Nonconformance and Disposition Reports:

APP-CA20-GNR-850057, CA20-14 Stud Deficiency, Rev. 0
 APP-CA20-GNR-850047, CA20-16 Rebar Clearance, Rev. 0
 APP-CA20-GNR-850054, CA20-12 Stud Deficiencies, Rev. 0
 E&DCR
 APP-CA20-GEF-1025, Cope and Chamfer Details, Rev. 0
 VS2-CA20-GEF-000055, CA20 Shear Stud Hold, Rev. 0

Miscellaneous:

Welder Sign-Off Sheet, 430011-WSO-1933392, Page 47 of 317
 Welder Sign-Off Sheet, 430011-WSO-1933392, Page 50 of 317
 Work Package VS2-CA20-SLW-001, "CA20 Sub-Assembly 1 Faceplate Weld Repairs," Rev. 0

Section 1A12:

Drawing VS2-KQ11-MTK-002, Verification for Unit 2 Module 1110 KQ-11 WLS Sump Pump Structural Interfaces, rev. A

Section 1A13:

VS3-0000-C9-001, AP1000 Concrete General Notes, Rev. 1
 VS3-0000-C9-002, AP1000 Concrete General Notes, Rev. 1
 VS3-1000-CR-001, Nuclear Island Basemat Bottom Reinforcement, Rev. 1
 VS3-1010-CR-011, Nuclear Island Basemat Sections & Details, Rev. 2
 VS3-1010-CR-012, Auxiliary Building Skin Reinforcement Splices, Rev. 0
 VS3-1000-CR-901, Nuclear Island Basemat Reinforcement Sections, Rev. 2
 VS3-1000-CR-904, Nuclear Island Basemat Reinforcement Section Details, Rev. 2
 VS3-1210-CR-901, Auxiliary Building Basemat Reinforcement Sections NS and Details El. 66'-6", Rev. 3
 VS3-1210-CR-902, Auxiliary Building Basemat Reinforcement Sections EW and Details El. 66'-6", Rev. 2
 VS3-1210-CR-903, Auxiliary Building Reinforcement Details Pit and Sump Area El. 66'-6", Rev. 3
 VS3-1210-CR-908, Auxiliary Building Reinforcement Sections & Details Pits Sump Area El. 66'-6", Rev. 1

Section 1A14:

Procedures:

APP-CR01-Z0-010, "Specification for Supply and Installation of Mechanical Splices for Reinforcing Steel", Rev. 6
 NCSP-3-44, "Mechanical Splicing of Reinforcing Steel", Rev. 0
 CSI 3-43, "Reinforcing Steel Terminators", Rev. 0
 NCSP-3-42, "Reinforcing Steel", Rev. 1
 APP-CR01-Z0-011, "Furnishing of Safety Related Reinforcing Steel", Rev. 4

Engineering & Design Coordination Reports (E&DCRs):

APP-0000-GEF-021, "Auxiliary Building – Clarify AP1000 Concrete General Notes", Rev. 0

APP-0000-GEF-018, "Rebar Lap Splice Class A vs B Clarification", Rev. 0
 APP-0000-GEF-029, "Changes to Development Lengths", Rev. 0
 APP-1000-GEF- 48, "Hold Removal for Open Item DI-OI-034617", Rev. 0
 APP-1200-GEF-173, "Splices for Walls below Elevation 82'-6\"", Rev. 0

Work Packages:

VS3-1210-CRW-001, "Installation of Layers 1 &2", Rev. 0

Miscellaneous:

Calibration record for Pipe Torque Wrench No. 16022, 1/30/2013
 Calibration record for Pipe Torque Wrench No. 16023, 7/3/2013
 Calibration record for Pipe Torque Wrench No. 16026, 7/3/2013
 N&D VS3-CR01-GNR-000001, "Development Length of Layer 1 / 2 Fabrication", Rev. 0

Section 1P01:

Corrective Action Documents:

WEC IR 13-148-M020
 WEC IR 13-238-M016
 WEC IR 13-232-M010
 CB&I CAR 2013-0934
 CB&I CAR 2013-1448

E&DCRs:

APP-1200-GEF-156, E&DCR to put A2-C5-X Wall 4 Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1200-GEF-158, E&DCR to put A2-C5-X Wall 7.3 Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1200-GEF-159, E&DCR to put A2-C5-X Wall I Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1200-GEF-160, E&DCR to put A2-C5-X Wall J,K Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1200-GEF-162, E&DCR to put A2-C5-X Wall J2 Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1200-GEF-164, E&DCR to put A2-C5-X Wall L,M Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1200-GEF-167, E&DCR to put A2-C5-X Wall P,Q Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1200-GEF-168, E&DCR to put A2-C5-X Small Wall Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1210-GEF-107, E&DCR to put Wall 11 - EI 82'6" Documents on Installation Hold due to CR Extent of Condition, Revision 0
 APP-1215-GEF-023, E&DCR to put A2 APP-1215-CE-801 on Installation Hold due to APP-GW-GEE-3541, Revision 0

Section 1P02:

Specifications and Procedures:

APP-MV01-GEM-002, AP1000 Reactor Vessel Long Term Storage Manual, rev.0
 APP-GW-VH-001, AP1000 Site Receiving, Inspection, and Storage Requirements for System Materials and Equipment, rev.0

NPP 10-01-03, Material Receipt, Storage, and Control, rev.3

Section 1P03:

Drawing AP 1000, Containment Vessel, Rev 3
Weld Traveler, S1 Plates B2-A5 to H02 Insert Assembly F12, Rev 1

Section 1P04.3:

CB&I Corrective Action Documents:

CAR 2013-1293, Repair Stud on Unit 2 CA20_16 Not Bent IAW VS2-VW01-Z0-001, 7/24/2013
CAR 2013-1332, Rebar Fabricated too Short to Meet Design Intent, 8/1/2013
CAR 2013-1375, Inability of Construction to Perform Work as Designed, 7/11/13
CAR 2013-1414, Safety Related Material with Multiple Tags, 8/19/2013
CAR 2013-1498, Interpass Temperature Verification, 8/29/2013

CB&I Services Corrective Action Documents:

NCR VC-055, ASTM 1B Penetrimeters out of tolerance, rev.0

Westinghouse Corrective Action Documents:

IR 13-260-M058, Loss of Configuration Control Issue in APP E&DCRs, 9/17/2013
IR 13-259-M038, AP1000 Upper Annulus Temperatures, 9/16/2013
IR 13-192-M200, Design Not Being Adhered by Construction, 7/11/2013
IR 13-232-M010, E&DCR Procedural Non-compliance, 8/20/2013
IR 12-232-M022, E&DCR Procedural Non-compliance, 8/20/2013

SCE&G Corrective Action Documents:

CR-NND-13-00481, Improperly Voided or Superseded E&DCRs, 5/30/2013
CR-NND-13-00483, Part 21 Evaluation Inadequate, 5/29/2013
CR-NND-13-00915, Weld Interpass Temperatures Not Controlled, 8/30/2013
CR-NND-13-00887, CA04 Calculation Deficiencies, 8/28/2013
CR-NND-13-00731, Shield Building Liner Plate Thickness, 7/25/2013

Section 4OA5.1

CR-NND-12-00793, Potential More-Than-Minor Violation of 10CFR50, Appendix B, Criterion V,
Dated 11/09/2012
CAR 2012-1509, November PI&R Potential Violation, Dated 11/09/2012
QS 16.5, Corrective Action Program, Revision 001, Dated 01/26/2012
QS 16.5, Corrective Action Program, Revision D, Dated 10/13/2008

Section 4OA5.2

SCE&G CRs:

CR-NND-12-00792

Shaw CARs:

CAR 2012-0239
CAR 2012-1510
CAR 2011-01-27-1040
CAR 2012-1488

CAR 2012-1489
CAR 2010-10-14-879
CAR 2012-1513
CAR 2011-02-22-1092

WEC IRs:

12-313-C006
13-084-M070
13-042-M011

Miscellaneous:

WEC Design Specification APP-SS01-Z0-001, "Shop Fabrication of Structural Steel," Revision 3
WEC Design Specification APP-SS01-Z0-008, "Shop Fabrication of Structural Steel," Revision 1
WEC Design Specification APP-SS01-Z0-008 (Canceled), "Shop Fabrication of Structural Steel," Revision 2 (Superseded by APP-SS01-Z0-001, Revision 3)
SCE&G Letter NND-13-0157, "Reply to Notice of Violation Dated February 14, 2013," Dated 03/14/2013

ACRONYMS USED

ACI	American Concrete Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWS	American Welding Society
CA20	Auxiliary Building Module
CAR	Corrective Action Report
CB&I	Chicago Bridge and Iron
CFR	Code of Federal Regulations
CMTR	Certified Material Test Report
CR	Condition Report
E&DCR	Engineering and Design Coordination Reports
IMC	Inspection Manual Chapter
ITAAC	Inspection, Tests, Analyses, and Acceptance Criteria
MT	Magnetic Particle Examination
NRC	Nuclear Regulatory Commission
PQR	Procedure Qualification Record
QAPD	Quality Assurance Program Description
RT	Radiographic Examination
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VIO	Violation
WEC	Westinghouse Electric Company, LLC
WPS	Welding Procedure Specification