



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

May 20, 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 PERIODIC
QUALITY ASSURANCE INSPECTION REPORTS 05200027/2013009 and
05200028/2013009**

Dear Mr. Jones:

On May 3, 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 May 3, 2013, with Mr. Alan Torres, other members of your staff, and consortium staff members.

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

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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
05200027/2013009 and
05200028/2013009
w/Attachment: Supplemental
Information

cc w/encl: (See next page)

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Letter to R. Jones from Micheal E. Ernstes dated May 20, 2013

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3 – NRC PERIODIC
QUALITY ASSURANCE INSPECTION REPORTS 05200027/2013009 and
05200028/2013009

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U.S. NUCLEAR REGULATORY COMMISSION
Region II

Docket Numbers: 5200027
5200028

License Numbers: NPF-93
NPF-94

Report Numbers: 05200027/2013009
05200028/2013009

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: April 29 through May 3, 2013

Inspectors: S. Alexander, Construction Inspector, DCI
C. Cheung, Construction Project Inspector, DCP
G. Crespo, Senior Construction Inspector, DCI
P. Donnelly, Resident Inspector, DCP
H. Gray, Senior Reactor Inspector, NRO
C. Jones, Senior Construction Inspector, DCI

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

Enclosure

SUMMARY OF FINDINGS

Inspection Report 05200027/2013009, 05200028/2013009; 04/29/2013 - 05/03/2013; Virgil C. Summer Nuclear Station Units 2 and 3; periodic quality assurance inspection report.

This report covers an announced quality assurance implementation team inspection by regional and resident inspectors. The Nuclear Regulatory Commission's (NRC's) program for overseeing the construction of commercial nuclear power reactors is described in Inspection Manual Chapter 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

1. CONSTRUCTION REACTOR SAFETY

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

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

a. Inspection Scope

The inspectors interviewed two subject matter experts on the in-process design of safety-related structural and electrical components. Based upon direct observations of auxiliary building module (CA-20) components, the inspectors confirmed that work was being performed per drawings, specifications, and prescribed procedures. The inspectors reviewed the rework of a two-side fillet weld to a full fusion weld resulting from a design change. The inspectors reviewed work scope conditions, stud weld techniques and quality, maintenance of module corrosion conditions and overall cleanliness to ensure compliance with applicable design requirements.

The inspectors reviewed selected licensee implementing documents associated with design change control to verify conformance with the Quality Assurance Program Description (QAPD) and Updated Final Safety Analysis Report (UFSAR). The inspectors reviewed samples of completed design changes to verify conformance with procedures. The inspectors reviewed drawings, engineering & design coordination reports, AP1000 design change proposals, and design of conduits and cable tray systems in module CA-20. The inspectors reviewed these documents to verify if:

- the design and design changes received the proper level of engineering review and licensing basis screening in accordance with licensee procedures;
- applicable design and licensing documents were updated to reflect design changes in accordance with licensee procedures;
- Code and safety classification of replacement structures, systems, and components (SSCs) were consistent with design bases;
- materials/replacement components were compatible with physical interfaces;
- modified SSCs structural effects upon attachment points were acceptable; and
- modified SSCs' effects on seismic evaluations were acceptable.

The inspectors reviewed the UFSAR to confirm safety-related ratings given in the different design documents reviewed. The inspectors reviewed raceway system specifications and design criteria to determine the coordination and component characteristics were adequately specified for the scope of work.

b. Findings

No findings were identified.

1P02 Quality Assurance Implementation, Appendix 4, Inspection of Criterion IV – Procurement Document Control (35007)

a. Inspection Scope

The inspectors reviewed Chicago Bridge and Iron (CB&I) and Westinghouse Electric Company, LLC (WEC) procurement procedures applicable to the purchase of safety-related SSCs to ensure conformance with the QAPD requirements and UFSAR commitments. The inspectors reviewed CB&I procedures QS 4.1, Site Procurement, Revision 2, and QS 3.1, Standard Quality Assurance (QA) Program Requirements in Specifications and Engineering Services Scopes of Work, Revision 2 and WEC procedure 7.5, Control of Purchased Items and Services, Revision 4. These procedures were reviewed against the procurement document control requirements in the QAPD, including:

- scope of work;
- technical requirements;
- quality assurance program requirements;
- right of access;
- documentation requirements;
- nonconformances; and
- spare and replacement parts.

The inspectors reviewed a sample of purchase order document packages for safety-related SSCs to verify the contents met the technical and quality requirements specified by engineering and applicable procedures. The inspectors reviewed WEC purchase orders for the reactor coolant pumps, the steam generators, and the control rod drive mechanisms to determine if they met the requirements of WEC procedure 7.5 described above. Further, the inspectors reviewed the component quality plans for the reactor coolant pump motor terminal to determine if they met the requirements of UFSAR Table 5.4-3. In addition, the inspectors reviewed the reactor coolant pump design specification APP-MP01-M2-001 to determine if the reactor coolant pressure boundary materials specified met the requirements of UFSAR Table 5.2-1. The inspectors also reviewed the CB&I purchase order for safety-related rebar to determine if it met the requirements of CB&I procedures QS 3.1 and QS 4.1.

b. Findings

No findings were identified.

1P03 Quality Assurance Implementation, Appendix 7, Inspection of Criterion VII – Control of Purchased Material, Equipment, and Services (35007)

a. Inspection Scope

The inspectors reviewed the status of the approved suppliers list (ASL) and compared the ASL provisions with 20 procurement packages. The inspectors confirmed that suppliers were authorized to provide components and/or services offered. The inspectors reviewed the licensee's evaluations of contractors to verify alignment with QAPD including provisions for removal from the ASL and approval to be added to the

ASL. The inspectors verified the procedures required an audit of a potential contractor prior to placement on the ASLs and documentation to support the addition. The inspectors verified that the procedures required current, accurate contractor name, location information, and scope of approved service to be listed on the ASLs. The inspectors assessed whether the periodic audit requirements of the procedures, including resulting changes of a contractor's status on the ASLs, met the commitments of the QAPD and American Society of Mechanical Engineers (ASME) ASME NQA-1.

The inspectors reviewed the list of supplier audits conducted by the licensee during the previous year and a schedule of upcoming supplier audits. The inspectors compared these documents to the ASL to establish that the licensee assessed contractors at intervals consistent with the importance, complexity, and quantities of the items being supplied.

A list of supplier audits conducted by WEC during the previous year and a schedule of upcoming supplier audits were reviewed and compared to the WEC ASL to establish that WEC had assessed contractors at intervals consistent with the importance, complexity, and quantities of the items being supplied. More information on the review of WEC audits can be found in section 1P07 of this report. The inspectors interviewed WEC lead auditors to evaluate their understanding and implementation of the process for removal or reinstatement of suppliers to the ASL.

A list of supplier audits conducted by CB&I during the previous year and a schedule of upcoming supplier audits were reviewed and compared to the CB&I ASL to establish that CB&I had assessed contractors at intervals consistent with the importance, complexity, and quantities of the items being supplied. More information on the review of CB&I audits can be found in section 1P07 of this report. Through interviews and review of associated documentation, the inspectors reviewed the process for suspending and reinstating Newport News Industrial Corporation based on the results of audit report V2012-09, "Audit of Newport News Industrial Corporation," to ensure:

- findings and associated corrective actions were tracked and closed prior to reinstating the vendor as an approved supplier;
- appropriate persons in procurement and receipt inspection were aware of the vendor's suspension and any status changes to the ASL;
- oversight was increased for open purchase orders with the vendor;
- the status of the vendor was accurately maintained on the ASL throughout the process; and
- the process was well documented through corrective actions and surveillance reports.

The inspectors reviewed site quality control activities to verify compliance with approved procedures, hold points, and subsequent reporting of the results from those inspections. The inspectors reviewed receipt inspection reports to verify implementation of measures for acceptance of purchased items. The inspectors reviewed auxiliary building module (CA-20) subcomponents including a reactor vessel cavity module (CA-04) mockup assembly and the mockup for the CA-20 fillet weld to full penetration weld and nondestructive verification. The inspection of the control of purchased services included a review of module stud weld techniques, weld quality controls including pre-shift testing, comparison between drawing requirements and welded stud locations. The inspectors examined weld material, wires, electrodes, gas for shielding, weld processes, module

corrosion control, and practices to maintain module cleanliness.

The inspectors reviewed plans for concrete pre-placement quality control inspection to confirm that inaccessible areas after concrete placement will be verified to be within the design requirements. The inspectors observed the overall condition of fabricated module assemblies for comparison to the design parameters. Further, the inspectors reviewed a sample of Certified Material Test Reports (CMTRs) submitted with the receipt of Unit 2 nuclear island rebar on site in accordance with the purchase order requirements. Specifically, the CMTRs were reviewed against the requirements of American Society of Testing and Materials (ASTM) A706-09b, Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement, in accordance with specification APP-CR01-Z0-011, Furnishing of Safety Related Reinforcing Steel, Revision 4.

b. Findings

No findings were identified.

1P04 Quality Assurance Implementation, Appendix 13, Inspection of Criterion XIII – Handling, Storage and Shipping (35007)

a. Inspection Scope

The inspectors conducted a walkdown of the on-site warehouse facilities and laydown yards and verified proper storage existed in accordance with licensee documents and requirements. They verified that required environmental conditions were maintained; items received on site were staged to await receipt inspection; and a segregated area was provided for nonconformances. Items were marked and tracked through a computer based inventory system. The inspectors sampled 12 items, including spooled weld wire, pipe spools, and assorted valves and verified the proper storage location as identified by the inventory system. The inspectors witnessed preventative maintenance performed on motor operated valves in long term storage.

The inspectors verified proper handling of materials on site during walkdowns of the module assembly building and the mechanical & structural fabrication shop. Materials that were specifically verified included solid weld wire and weld backer plate material. The inspectors reviewed work packages and other documents to ensure proper tracking and identification of materials outside of the storage warehouse.

The inspectors reviewed shipping records for two items that were shipped off site and verified proper shipping and handling guidelines were adhered to.

b. Findings

No findings were identified.

1P05 Quality Assurance Implementation, Appendix 15, Inspection of Criterion XV – Nonconforming Materials, Parts, or Components (35007)

a. Inspection Scope

The inspectors interviewed responsible personnel and reviewed a sample of nonconformance and disposition reports issued by CB&I and WEC to confirm that identified deviations and failures to comply were promptly identified, controlled, evaluated, and dispositioned. Samples of deviation notices issued by sub-suppliers were inspected to verify the licensee's agents provided effective oversight. Deficiencies with dispositions of "repair" or "use as-is" were reviewed to verify they were adequately supported by documented, verified, and approved engineering justifications.

The inspectors verified that the licensee screened deviations and failures to comply to determine if the conditions needed to be evaluated for any potential to create substantial safety hazards as defined in 10 CFR Part 21 and 10 CFR Part 50.55(e).

Direct observations conducted in the Warehouse 1 materials receiving and storage areas evaluated the adequacy of controls to segregate, mark, and control nonconforming items to prevent inadvertent installation or use.

b. Findings

No findings were identified.

1P06 Quality Assurance Implementation, Appendix 16, Inspection of Criterion XVI – Corrective Action (35007)

a. Inspection Scope

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 50, Appendix B. The inspectors reviewed the 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;
- conditions were appropriately screened;
- the organization properly evaluated and reported the condition in accordance with 10 CFR 50.55(e) and 10 CFR Part 21;
- the identification and correction of design deficiencies was being adequately addressed;
- extent of condition was being adequately addressed; and
- appropriate corrective actions were developed and implemented.

b. Findings

No findings were identified.

1P07 Quality Assurance Implementation, Appendix 18, Inspection of Criterion XVIII – Audits (35007)

a. Inspection Scope

The inspectors reviewed the licensee's and its primary subcontractors', WEC and CB&I, implementing documents for internal and supplier audits to verify requirements of the QAPD and ASME NQA-1 had been addressed.

The inspectors reviewed the current internal and external audit schedules for the licensee, WEC, and CB&I to verify areas to be audited and that audit frequencies identified were consistent with commitments. The inspectors reviewed how audits were scheduled and tracked to verify that none of the scheduled audits were canceled or deferred. The inspectors reviewed a list of internal and supplier audits conducted during the previous year and a schedule of upcoming internal and supplier audits for the licensee, WEC, and CB&I.

The inspectors reviewed procedural requirements for planning audits to verify the following were included:

- development of an audit plan and checklist;
- a purpose and scope of the audit were established, including specific aspects of the QA program to be evaluated; and
- auditor selection involved auditor qualification, knowledge of the areas being audited; and independence from direct responsibility of the activities being audited.

The inspectors reviewed procedural requirements for documenting audits to verify the following were included:

- results of the audit, such as an audit report, including determination of compliance and effectiveness of the QA program being audited;
- identification and summary of deficiencies and nonconformance; and
- management review of audit results.

The inspectors reviewed a sample of recently completed internal and supplier audit reports conducted by WEC and CB&I. This review verified the determination of effectiveness of implementation, compliance with the respective QA programs, summaries of identified deficiencies and nonconformances, and the inclusion of response due dates.

The inspectors reviewed a sample of audit reports to verify that:

- audits were included in the audit schedules and performed within the scheduled time frames;
- results of audit activities were sufficient to ascertain the general status of the contractor's implemented QA activities for the requirements in procurement documents;
- audits were reviewed by the management responsible for the audited areas;
- audits were distributed to designated organizations; and

- any audit findings corrected during the audits were documented and verified during audit processes.

Several deficiencies and nonconformances identified during the sampled audits were reviewed to verify that they were either resolved or were being tracked as "open items" with a defined schedule for resolution. The follow-up activities were also reviewed to verify that the actions were taken or were scheduled to be completed and the follow-up activities fully addressed expressed concerns.

The inspectors reviewed the audit plans and checklists associated with internal WEC audit WEC-12-62, Westinghouse Electric Company VC Summer 2 & 3 On-Site, and external audit CB&I audit V2013-03, "Audit of Shaw Modular Solutions/CB&I Lake Charles," to verify the audit plans were prepared and issued.

A sample of auditor qualification records for CB&I were reviewed to verify that auditors were trained, auditor training was adequately maintained, and that auditors did not have direct responsibility in the areas that were audited. Procedure QAD 2.12, "Qualification and Certification of Personnel Performing Quality Assurance Audits," was reviewed and compared to the requirements of the QAPD, NQA-1, and the auditor qualification records to establish that training requirements and training records were consistent with commitments.

WEC and CB&I auditors who had recently conducted audits were interviewed to verify:

- follow-up activities identified during audits are tracked to ensure that they are completed,
- the auditors had direct access to the levels of management of the activities being audited,
- the auditors did not perform the work that they audited, and
- the auditors received an audit briefing prior to conducting audits.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES (OA)

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

On May 3, 2013, the inspectors presented the inspection results to Mr. Alan Torres, along with other licensee and consortium staff members. The inspectors stated that no proprietary information would be included in the inspection report except for listing under documents reviewed and this information would be handled as sensitive information.

KEY POINTS OF CONTACT

Licensee and Contractor Personnel

C. Baucom, Licensing and Regulatory Compliance
C. Castell, Licensing, CB&I
H. Cote, Civil Design, CB&I
G. Crover, Engineering
C. Dahlberg, Lead Module Field Engineer
R. Driscoll, Engineering, Westinghouse
J. Everett, QC/NDE Level III Supervisor
J. Ewing, Senior Licensing Engineer
D. Jaynes, General Foreman
J. Johnson, Quality Assurance, CB&I
B. Koons, Engineering, WEC
K. Lang, Material Manager
L. Mooney, Quality Assurance CB&I
M. Reinhardt, Civil Design, CB&I
J. F. Salter, Assistant Engineer - Licensing
G. Shampy, Procurement/Warehouse Manager
A. Torres, General Manager of Construction
D. Wetzel, Engineering

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None.

DOCUMENTS REVIEWED

Section 1P01:

AP1000 Design Change Proposals:

- APP-GW-GEE-3533, "Release update of Standard Plant Core I&C Cable Termination Document to Support Cable Scheduling Document," Rev. 0
 APP-GW-GEE-3173, "Update to NA I&C signal termination information to support SWI cable scheduling information," Rev. 0

Engineering & Design Coordination Reports:

- CPP-GW-GEF-100124, "Closed Open Items on Electrical Related Drawings," Rev. 0
 VSG-KB13-GEF-000002, "KB13 Mods – Civil," Rev. 0
 VS2-CR01-GEF-000030, "WWF at Sumps and Elevator Pits," Rev. 0
 VS2-KB13-GEF-000009, "FNC-KB13 Nozzles and Legs," Rev. 0
 VSG-KB15-GEF-000001, "Safety Class Addition for KB15," Rev. 0
 APP-1213-GEF-012, "Power Panel Assignment (Load Lists) for Air and Solenoid Valves for Auxiliary Building," Rev. 0

Drawings:

- APP-CA20-ER-404, "Auxiliary Building Area 5 CA20 Module Cable Tray Arrangement Plan At Elevation 100'-0"," Rev. 0
 APP-CA20-ER-415, "Auxiliary Building Area 5 CA20 Module Conduit Arrangement Plan At Elevation 117'-6"," Rev. 1
 APP-CA20-ER-415, "Auxiliary Building Area 5 CA20 Module Conduit Arrangement Plan At Elevation 117'-6"," Rev. 0
 APP-CA20-ER-417, "Auxiliary Building Area 6 CA20 Module Conduit Arrangement Plan At Elevation 82'-6"," Rev. 2
 APP-CA20-ER-417, "Auxiliary Building Area 6 CA20 Module Conduit Arrangement Plan At Elevation 82'-6"," Rev. 1
 APP-CA20-ER-417, "Auxiliary Building Area 6 CA20 Module Conduit Arrangement Plan At Elevation 82'-6"," Rev. 0
 APP-CA20-ER-411, "Auxiliary Building Area 5 CA20 Module Conduit Arrangement Plan At Elevation 66'-6"," Rev. 3
 APP-CA20-ER-411, "Auxiliary Building Area 5 CA20 Module Conduit Arrangement Plan At Elevation 66'-6"," Rev. 2
 APP-CA20-ER-411, "Auxiliary Building Area 5 CA20 Module Conduit Arrangement Plan At Elevation 66'-6"," Rev. 1

Open Items:

- DI-OI-033578, "Location for instruments on hold because Instrument Installation Drawings not in numerical revision. Scope: elevation 66'-6" Auxiliary Building," Closed on 01/30/2012
 DI-OI-018628, "Raceway design subject to finalization of system loads and electrical sizing. Additional/revised raceway design work to be completed," OI Target Date: 03/22/2010 (not closed still)
 DI-OI-016746, "Power panel assignment for air and solenoid valves is not available – required for routing their power cables. Assumption: They are being routed towards area 3 elevation 100'-0"," Closed on 08/14/2012
 DI-OI-023831, "Numeric revision of single line diagrams for motor control centers is required." Closed on 11/03/2010.

DI-OI-033595, "Electrical Details in Conduit Notes and Details: Detail for Seismic Cat. I, II is needed for connection between a sleeve (embedded conduit) and conduit/s," OI Target Date: 02/28/2011 (not closed)

Specifications:

APP-DF03-Z0-001, "Design Specification – Class 1E Spare Battery Termination Box," Rev. 3.
 APP-PV70-Z0-001, "Squib (Pyrotechnic Actuated) Valves, ASME Boiler and Pressure Vessel Code, Section III Class 1," Rev. 4, dated: 6/5/12.
 APP-ER02-Z0-001, "Conduit, Tubing and Fittings Specification," Rev. 2, dated: 4/17/2012.
 APP-ER01-Z0-002, "Cable Tray and Fittings," Rev. 1, dated 12/20/2011.

Miscellaneous:

AP1000 General E&DCR Flow Process
 APP-GW-GMP-006, "AP1000 Component Numbering Procedure," Rev. 7, dated: 1/2013.
 APP-G1-E1-003, "Raceway Design, Discipline Design Criteria," Rev. 3, dated: 9/18/2012

Section 1P02:

Procedures:

CB&I, QS 4.1, Site Procurement, Revision 2
 CB&I, QS 4.3, Office Procurement and Subcontracting and Selection of Suppliers, Revision 2
 CB&I, QS 3.1, Standard QA Program Requirements in Specifications and Engineering Services Scopes of Work (ESSOWS), Revision 2
 WEC 7.5, Control of Purchased Items and Services, Revision 4

Purchase Orders and Specifications:

APP-GW-GAH-030, Quality Assurance Requirements for Safety Related Components/Services of Standard AP1000 Plants, Revision 4
 VSG-MP01-Z5Y-004, REDACTED Purchase Order 4500265135 Reactor Coolant Pumps for SCANA, Revision 0
 VSG-MP01-Z5-001, Agreed Positions on Key Terms and Conditions for Project Purchase Orders General Terms and Conditions PO 4500265135, Revision 0
 VSG-MP01-Z5-003, Appendix 3 Technical Requirements for AP1000 Reactor Coolant Pumps VC Summer Units 2 & 3, Revision 1
 APP-MP01-M2-001, Design Specification for AP1000 Reactor Coolant Pumps, Revision 3
 PO 4500266003, Westinghouse AP1000 Steam Generators for VC Summer Units 2 & 3, 9/5/2008
 APP-GW-G8-055, Appendix 1: AP1000 Supply Chain Management General Terms and Conditions, Doosan Only, Revision 0
 VSG-MB01-Z5-003, Appendix 3 Technical Requirements for the AP1000 Steam Generator Purchase Order for VC Summer Units 2 & 3, Revision 2
 PO 4500328263, Westinghouse AP1000 Control Rod Drive Mechanisms for VC Summer Units 2 & 3, 12/18/2009
 APP-MV11-Z0-001, Design Specification for AP1000 Control Rod Drive Mechanism (CRDM) for System: RXS, Revision 5
 PO 132177-J400-00, Safety Related Reinforcing Steel, 12/24/2009
 APP-CR01-Z0-011, Furnishing of Safety Related Reinforcing Steel, Westinghouse Safety Class C "NUCLEAR SAFETY RELATED", Revision 4

Vendor Documents:

Gerdau #11 Rebar CMTR, Heat K100382, Ship Date 2/23/12
 Element Materials Testing, Check Test of Heat K100382, 12/14/11
 Gerdau #11 Rebar CMTR, Heat K100381, Ship Date 3/19/12
 Element Materials Testing, Check Test of Heat K100381, 12/14/11
 Gerdau #11 Rebar CMTR, Heat K100784, Ship Date 2/24/12
 Element Materials Testing, Check Test of Heat K100784, 10/3/11
 Gerdau #11 Rebar CMTR, Heat K100590, Ship Date 12/7/12
 Element Materials Testing, Check Test of Heat K100590, 11/1/12
 Dubose National Energy Services, CQP-447076-2b, Component Quality Plan for PO#447076,
 Terminal Gland Body
 Dubose National Energy Services, CQP-447411-2, Component Quality Plan for PO#447411,
 Terminal Gland Adapter
 Curtiss-Wright EMD, Manufacturing, Inspection and Test Plans, MITP-EMD 449228-2-U601,
 Revision 2

Corrective Action Documents:

WEC IR 12-268-M005, Update to DCD Table 5.2-1 for RCPB Materials Specified for Valves
 WEC IR 13-121-M047, DCD Rev 19 Table 5.4-3 Inconsistency

Section 1P03:Drawings:

APP-CA20-S5Y-00003, Rev 5. Aux bldg Areas 5&6, CA20, General notes -III
 APP-CA20-S5Y-00004, Rev 5. Aux bldg Areas 5&6, CA20, General notes -IV
 APP-CA20-S5Y-00005, Rev 5. Aux bldg Areas 5&6, CA20, General notes – V
 APP-CA20-S5-02001, Rev 5. Aux bldg Areas 5&6, CA20, Isometric View, CA-02
 APP-CA04-S4-101, Rev 1. Module CA-04, Vertical View
 APP-CA04-S4-100, Rev 1. Module CA-04, Plan view
 APP-CA04-S4-001, Rev 1. Module CA-04, Isometric View A
 APP-CA04-S4-002, Rev 1. Module CA-04, Isometric View B

Procedures:

S&W QS 13.11, Rev C. Material Equipment Storage
 QAD 09.53, Rev 2. Ultrasonic Examination of Structural Welds per AWS D1.1
 RPV Inspection plans and results, VCS2-DHI-RV-0108, RV-0161, RV-0265, RV-0064, RV-0190,
 and RV-0341 for various Reactor Pressure fabrication and testing operations
 Steam Generator Inspection plans and results, VCS2-DHI-SG2A-0071, 0284, 0387, and 0161
 for various SG fabrication, welding and inspection operations.
 Steam Generator Inspection plans and results, VCS4-DHI-SG3-0105, 0144 and 0242 0161 for
 SG fabrication, welding and ultrasonic testing operations
 SCE&G procedure NND-AP-0010, "NND QA Audit/Surveillance, QA Program Effectiveness
 Review, and QA Plan Review Programs";
 (WEC) WEC 7.1, "Supplier QA Program Qualification and Assessment," Rev. 5.0
 (CB&I) QAD 7.17, "Supplier QA Program Evaluation," Rev. 004
 (CB&I) SWSQAP 1-74A, Shaw Standard Nuclear Quality Assurance Program," Rev. B dated 6
 1-09

Corrective Action Documents:

SHAW VCS-ND-12-0410, dated 9/6/2012 on rust and pitting of joint edges of Module CA20-07
 VS2-CA-20-GNR-081, Rev 1. Field Deviation Report for CA20-02 Stud Weld Installation

Specification and Requirements Documents:

APP-GW-Z0-602, Rev 3. AP 1000® Cleaning and Cleanliness Requirements of Equipment for use in Nuclear Supply and Associated Systems
 APP-VW01-Z0-001, Rev 2. Structural Module Shear Stud Welding Specification

Miscellaneous:

E&DCR No. APP-CA20-GEF-682, Rev 0. Module protective covering.
 E&DCR No. APP-CA20-GEF-990 Rev 0. Faceplate Rework, conversion from a two sided fillet weld to a full penetration weld
 E&DCR No. APP-CA20-GEF-712, Rev 0. CA-20 Module , VT Inspection Criteria
 E&DCR No. APP-CA20-GEF-1004, Rev 0. CA-20 Module , Spreader Angles
 E&DCR No. APP-CA20-GEF-275, Rev 0. CA-20 Module , Rebar Size Changes
 E&DCR No. VS2-CA20-GEF-000051, Rev 0. CA-20 Module , Add Shear Studs
 FS Fluid 100 Grout, P.O.#SO012377 Documentation and shelf life information.
 WEC Approved Supplier List for QL-1 components
 Supplier Audit List for the July 2012 to April 2013 period
 SHAW Inspection Report Q445-12-0568 for Item CA20-58
 SHAW Inspection Report Q445-12-0633 for Embed Plates PF086, 087 and 088.
 SHAW Inspection Report Q445-12-0601 for VS2-WRS-PLW pipe spool pieces
 Report for Audit No. V2013-03 of Shaw Modular Solutions/ CB&I Lake Charles, LA on the QA Program for AP-1000 modular fabrication.
 Report for NIAC Audit No. V2013-23 of the Mackson Inc. Quality Assurance Program
 Quality Assurance Audit Plan and Report No. 2012-034 of the Domestic AP100 Design Finalization Project.
 Shaw Quality Assurance Audit Plan and Report No. 2012-025 of the Engineering Group Functional Activities
 Closure of Shaw Quality Assurance Audit No. 2012-021 of the Engineering Group Functional Activities
 APP-GW-G0X-003, Rev 5. AP1000 Commodity Locator Codes
 (WEC) WEC Supplier Audits performed between July 2012 and April 2013, April 30, 2013
 (WEC) V.C. Summer Site Audits July 2012-March 2013
 (WEC) Quality Suppliers List, May 1, 2013
 (CB&I) V2012-09, "Audit of Newport News Industrial Corporation," November 1, 2012
 (CB&I) Newport News Industrial Corporation, Quality Assurance Audit Finding Response for Audit No. V2012-09
 (CB&I) Audit List – 2012
 (CB&I) Audit List – 2013
 (CB&I) Shaw Nuclear Quality Rating List, April 17, 2013
 (CB&I) Shaw Nuclear Quality Rating List, October 18, 2012
 (CB&I) Shaw Nuclear Quality Rating List, October 24, 2012
 (CB&I) Shaw Nuclear Quality Rating List, December 11, 2012

Section 1P04:Miscellaneous:

"Return to Inventory Form," for Torque Transducer, dated 6/19/2012
 "Return to Inventory Form," for Power Analyzer, dated 12/4/2012
 NPP 10-01-03, Rev. 3, "Material Receipt Storage and Control"
 APP-GW-GAP-113, Rev. 2, "Consortium AP1000 Receiving Interface"
 QS 13.11, Rev. C, "Material/Equipment Storage"
 MS 1.11, Rev. C, "Storage and Handling of Measuring and Test Equipment"

QAPD, Rev 3, "VC Summer Units 2 and 3 Quality Assurance Program Description"
 CAR 2013-0717, "Leaking roof in Whse 20A & 20B. Two leaks were identified: one in Level B area, and one in the Level A area."

Section 1P05:

Procedures:

QS 15.1, Nonconformance and Disposition Report," Rev. 2, including TCNs A and B

Nonconformance Reports:

VCS-ND-12-0352, "Weight Scale found out of tolerance," dated 7/18/2012

VCS-ND-12-0354, "Fabricator performed welding without preheat," dated 7/19/2012

VCS-ND-12-0384, "Puncture of Waterproof Membrane," dated 8/2/2012

VCS-ND-12-0452, "Nelson Studs omitted on Sub-Module CA20-02," dated 8/28/2012

VS2-CA20-GNR-081, "Field Deviation Report for CA-20-02 Weld Stud Installation," dated 8/23/2012

Letter from Westinghouse Nuclear Services, "PD-964 Closeout, 'V.C. Summer Unit 2 CA20 Sub-module 02 Weld Stud Installation," dated September 17, 2012

VS2-CA20-GNR-000041, CA20_04 Conduit Support Weld, dated 12/10/2012

VS2-CA20-GNR-000048, "Indeterminate Quality in Nelson Stud Welds," dated 1/29/2013

QS 16.3 Evaluation Form for N&D VS2-CA20-GNR-000048, dated 2/27/2013

VSG-CE01-GNR-000001, "CB&I failed to assure their sub-supplier implemented a stud welding procedure," dated 2/28/2013

QS 16.3 Evaluation Form for N&D VSG-CE01-GNR-000001, dated 4/23/2013

VS2-CE01-GNR-000014, "Embed plate anchor bent 20° from perpendicular," dated 2/20/2013

VS2-CE50-GNR-000011, "Embedment Plate Weld Failure," dated 1/22/2013

VS2-CR01-GNR-000035, "Crack Bar Development does not conform to design," dated 3/1/2013

QS 16.3 Evaluation Form for N&D VS2-CR01-GNR-000035, dated 4/29/2013

VS2-MV20-GNR-004, Supplier Deviation Notice - Out of tolerance dimensions for Pressurizer Surge Screen Nozzle and Thermal Sleeve," dated 11/26/2012

VS2-MV50-GNR-002 (DN) VC Summer Unit 2 – Deviation for Preheat Requirements for BH3 Longitudinal Weld Seam "V", dated 11/10/2011

VS2-SS01-GNR-000008, "Dimensions of W-beam end cut were out of tolerance," dated 10/24/2012

VS2-SS01-GNR-000050, "Some holes shifted during drilling of holes," dated 2/6/2013

Corrective Action Reports:

CAR 2013-0718 (NRC Identified), "Reportability Screening Forms Missing In Nonconformance Records Package," dated 5/2/2013

CAR 2013-0724 (NRC Identified), "10 CFR 50.55(e) Evaluation for CAR 2012-0662 (Evaluation No. 12-34)," dated 5/3/2013

IR 12-235-M022, "As-Installed Weld studs not Bounded by Design," dated 8/22/2012

IR 13-050-M048, "E&DCR issued after fabrication caused welds to become nonconforming," dated 2/19/2013

QS 16.3 Evaluation Form for CAR 2012-0874, dated 4/3/2013

Design Control Documents:

E&DCR VSG-CA20-GEF-000002, Rev. 0, "Licensing HOLD for DCP 3510"

Section 1P06:Corrective Action Documents:

CAR 2012-0662, "Nelson Studs Omitted on Sub-module CA20_04," dated 6/1/2012
 CAR 2012-0959, "Evaluate Programmatic Issues with Failures to Apply Pre-heat," dated 8/6/2012
 CAR 2012-1680, "Evaluate significance of nonconforming welds on conduit supports," dated 12/13/2012
 Issue Report (#13-121-M015) (NRC Identified), "Improper Identification and Closure of Open Items," dated 5/1/2013

Section 1P07:SCE&G Procedures:

QAPD, "South Carolina Electric & Gas Co. V. C. Summer Units 2 and 3 Quality Assurance Program Description," Rev. 2
 NND-AP-0010, "NND QA Audit/Surveillance, QA Program Effectiveness Review, and QA Plan Review Programs," Rev. 9

SCE&G Miscellaneous:

VC Summer's Approved Supplier's List, 4/29/2013
 2012 Audit Schedule/3rd Quarter Surveillances, Rev. 5, 10/09/2013
 2013 Audit Schedule, Rev. 0, 1/24/2013

WEC Procedures:

APP-GW-GAP-138, "Quality Oversight at US AP1000 Construction Sites," Rev. 3
 VSG-GW-GAH-010, "V. C. Summer Supplemental Project Quality Assurance Plan," Rev. 5

WEC Audit Reports:

WEC-2013-034-R, "Pittsburgh Valve & Fitting Co.," March 22, 2013
 WEC-12-62, Westinghouse Electric Company VC Summer 2 & 3 On-Site, January 2, 2013

WEC Miscellaneous:

Issue Report # 11-294-C027, "Unique/Specific identification/traceability of items upon receipt," January 3, 2012
 CAR 2012-1380, "Feed Water System Piping Calculation APP-FWS-PLR-010 Rev.01 and Associated Isometric Discrepancies. Engineering Rational when Not Provided to Changes in Plant Equipment may Affect Plant Reliability. Finding Level 3 Identified During QA Audit 2012-34, Domestic AP1000 Design Finalization Project.," 2/4/2013

CB&I Procedures:

QAD 2.12, "Qualification and Certification of Personnel Performing Quality Assurance Audits," Rev. F
 QAD 7.19, "Shaw Nuclear Use of Nuclear Industry Assessment Committee (NIAC) Audits," Rev. 001
 QAD 7.21, "Shaw Nuclear Use of Third Party Audits," Rev. 0
 QAD 18.01, "Quality Assurance Audits," Rev. 002
 QS 18.01, "Quality Assurance Audits," Rev. 002
 SWSQAP 1-74A, Shaw Standard Nuclear Quality Assurance Program," Rev. B dated 6-1-09

CB&I Audit Reports:

V2013-03, "Audit of Shaw Modular Solutions/CB&I Lake Charles," March 29, 2013 (including audit plan, qualification records, checklist, and attachments)

V2012-09, "Audit of Newport News Industrial Corporation," November 1, 2012

2012-034, "Audit of the Domestic AP1000 Design Finalization Project," October 17, 2012

2012-25, "Audit of the Nuclear Engineering Group's Functional Activities," November 12, 2012

Miscellaneous:

Selected CB&I Records of Auditor Qualification

ACRONYMS USED

ASL	Approved Suppliers List
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
CA-20	Auxiliary Building Module
CB&I	Chicago Bridge and Iron
CFR	Code of Federal Regulations
CMTR	Certified Material Test Reports
NRC	Nuclear Regulatory Commission
QA	Quality Assurance
QAPD	Quality Assurance Program Description
SSC	Structure, System, or Component
UFSAR	Updated Final Safety Analysis Report
WEC	Westinghouse Electric Company, LLC