



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

November 6, 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 05200027/2013011 and  
05200028/2013011**

Dear Mr. Jones:

On October 4, 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 4, 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

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  
05200027/2013011 and  
05200028/2013011  
w/Attachment: Supplemental  
Information

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DATE	10/31/2013	11/06/2013	11/05/2013	10/31/2013	11/04/2013		
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Letter to R. Jones from Michael E. Ernstes dated November 6, 2013

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3 – NRC PERIODIC  
QUALITY ASSURANCE INSPECTION REPORTS 05200027/2013011 and  
05200028/2013011

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

Docket Numbers: 5200027  
5200028

License Numbers: NPF-93  
NPF-94

Report Numbers: 05200027/2013011  
05200028/2013011

Licensee: South Carolina Electric & Gas

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

Location: Jenkinsville, SC

Inspection Dates: September 30, 2013 through October 4, 2013

Inspectors: Eugene Huang, Reactor Operations Engineer, DCIP  
Chad Huffman, Resident Inspector, DCP  
Caudle Julian, Senior Project Manager, DCI  
LaDonna Suggs, Senior Construction Project Inspector, DCP  
Jose Vasquez, Construction Inspector, DCI

Accompanying Personnel: Ian Spivack, Reactor Operations Engineer, DCIP

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

Enclosure



## **SUMMARY OF FINDINGS**

Inspection Report 05200027/2013011, 05200028/2013011; 09/30/2013 through 10/04/2013; 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 subject matter experts and individuals conducting work in the field to discuss the implementation of the design control process. The inspectors reviewed a sample of 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 work packages being used in the field, which included a sample of engineering design changes, field changes and material substitutions. 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;
- drawings were updated incorporating all the necessary design changes and drawings that were not yet updated, had the proper links and tracking mechanisms to ensure that a design change would not be lost; and
- design changes that impacted previous qualification reports were adequately reviewed and/or re-qualified.

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 a sample of procurement documents for safety related, and risk significant non-safety related items to determine if the purchase documents were prepared in accordance with CB&I Quality Assurance Program and design specifications. In addition, the inspectors determined that purchased items or services were procured from qualified contractors.

The inspectors sampled receipt inspection documents to determine if requirements from QA procedures were properly implemented. The inspectors also reviewed procurement

documentation to determine if they contained instructions for the contractor to provide documentation of quality and component traceability.

The inspectors performed a walk-down of the storage conditions for safety related items to determine if the critical characteristics of purchased items were in accordance with contract documents and engineering specifications. The inspectors interviewed licensee's personnel to determine if procurement records were properly maintained in accordance with the licensee's document control program.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's document control process to verify measures had been implemented to control reviewing, issuing and distributing controlled documents in accordance with the requirements. The inspectors reviewed the sections related to document control in both Chicago Bridge & Iron (CB&I) and Westinghouse's (WEC) document control procedures in order to assess the implementation of their document control program and to verify that contractors were also complying with requirements.

The inspectors reviewed a sample of hard copy controlled documents and verified that the controlled documents in the inspection sample were reviewed and approved by the appropriate personnel other than the preparers of the documents. The inspectors verified that revisions to the controlled documents had been reviewed and approved by the same organization that the documents were originated. The inspectors reviewed newly completed and in use work packages to verify that the work packages were complete with the appropriate controlled documents as specified in the associated document evaluation and technical evaluation lists.

The inspectors interviewed document control managers from the Records and Information Management organization in the central and the satellite document control centers to determine whether managers were knowledgeable of their respective document control processes and the quality assurance activities that they were performing. In addition, the inspectors interviewed construction personnel in the Modular Assembly Building who were actively engaged in construction activities to verify that they had access to the current version of controlled documents.

b. Findings

No findings were identified.

1P04 Quality Assurance Implementation, Appendix 8, Inspection of Criterion VIII – Identification and Control of Materials, Parts and Components (35007)

a. Inspection Scope

The inspectors reviewed a sample of safety related items to verify that the items were properly identified and controlled in accordance with licensee implementing documents. The inspectors reviewed a sample of associated records to ensure that procured, received, and inspected items were properly tracked and verified. The inspectors also reviewed a sample of nonconforming items to ensure that they were properly tagged and segregated and that the associated documentation reflected the actual status of the items.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's procedures for the control of measuring and test equipment (M&TE) to verify measures had been implemented to control the inventory, tracking, calibration, and issuing of M&TE for field use in accordance with the requirements of 10 CFR Appendix B. The inspectors reviewed the M&TE control process for both CB&I Power and CB&I Services. Inspectors interviewed personnel responsible for control of the M&TE program in both organizations to understand their practices and to confirm that the personnel interviewed were knowledgeable of their responsibilities and the quality assurance activities that they were performing. Inspectors examined the CB&I Power M&TE calibration laboratory and witnessed the calibration of an electrical clamp on meter in progress. Inspectors examined the central tool room where M&TE is stored and issued and interviewed the person responsible for issuing M&TE out of the tool room.

Inspectors confirmed that calibrated M&TE was properly labeled with unique identification to provide traceability to its calibration status. Inspectors also verified that out-of-calibration M&TE was tagged, segregated, and controlled to ensure that it is not inadvertently used. The inspectors reviewed a sample of records of M&TE found to be out of calibration and the evaluation of the acceptability of previous work performed with the M&TE.

The inspectors reviewed the use of M&TE in storage areas to determine whether storage conditions were being monitored with appropriate, calibrated equipment. Specifically, the inspectors observed the following items:

- Temperature/Humidity Sensor Number 100811 - Reactor Vessel and Head Storage Area;
- Temperature/Humidity Sensor Number QC25235 - Warehouse Level A Storage Area;

- Temperature Sensor Number 52685 - CB&I Power Rod Room 1;
- Temperature Sensor Number 64805 - infrared thermometer, CB&I Power Rod Room 1;
- Temperature Sensor Number 3201871 - CB&I Services Rod Room; and
- Temperature Sensor Number N62400 - CB&I Services Rod Room.

Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors observed the CB&I Power site warehouse facilities and various designated storage areas to determine whether the requirements of the CB&I Standard Nuclear Quality Assurance Program and NQA-1 1994 were being met with respect to the storage and handling of items onsite. The inspectors examined various elements of the storage of items including, but not limited to, the following:

- storage levels for items were properly classified;
- caps, plugs and tapes were used as required to prevent deterioration of items;
- containers, crating and skids were used during shipping and storage as necessary;
- containers and items were adequately marked to provide for proper identification;
- nonconforming items discovered during receiving inspection were properly identified, stored and segregated with controlled access.

The warehouse Level A storage area was maintained at an acceptable temperature and humidity level with controlled access. No indications of rain or other leaks were present. Basemat items such as rebar, embed plates and shear reinforcement were stored in Level D areas which were properly designated and had proper cribbing to prevent contact of items with the ground.

The reactor vessel and head package were stored in a Level B storage area. The inspectors examined this area to determine whether storage was in accordance with the requirements of APP-MV01-GEM-002, "AP1000 Reactor Vessel Long Term Storage Manual," revision 1. Specifically, the inspectors observed the following attributes:

- the storage area was well drained and paved;
- the storage area was removed from the actual construction area and traffic to avoid damage from outside sources;
- appropriate cribbing was used;
- the storage area was clean and free of loose debris;
- access to the enclosed storage area was controlled via lock; and
- a log was maintained to ensure that only designated personnel gained entry.

The inspectors observed storage areas for components at the CB&I Services controlled area of the construction site where the containment vessel assembly is occurring. The inspectors visually inspected the following items to ensure they were stored in accordance with CB&I Services procedures and the requirements of NQA-1 1994:

- ASME Section III Components (insert plates, stiffener rings, spent fuel transfer canal insert, attachment plates and containment vessel plates);
- welding filler wire/rods; and
- containment coating components.

Measures were established to ensure temperature and humidity levels were maintained within prescribed limits for welding filler material and containment coatings. A list of M&TE used by the licensee to verify storage conditions during the inspectors review of storage areas is included in the Criterion 12 section of this report.

The inspectors observed the handling of containment vessel plates and ensured workers utilized a lifting plan during plate movement. The inspectors observed the shipping setup for submodules CA20-28 and CA20-71 to ensure the items were appropriately secured, supported and that stainless steel components were protected from contamination.

Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1P07 Quality Assurance Implementation, Appendix 14, Inspection of Criterion XIV – Inspection, Test, and Operating Status (35007)

a. Inspection Scope

Inspections were performed on a sample of items at the site to determine if the items with QA reject red tags matched the documentation for that item.

The inspectors reviewed a sample of items to verify implementation of the licensee's process for indicating the inspection, test and operating status of items. Specifically, the inspectors observed the following, but not limited to, status indicators: CA20 submodules, rebar, rebar terminators, rebar splices and containment vessel components. The inspectors observed tagging and documentation for items to verify their status was in accordance with its associated inspection report. The inspectors also observed storage areas and interviewed personnel to ensure items marked as reject were properly controlled and not inadvertently installed.

b. Findings

No findings were identified.

**4. OTHER ACTIVITIES (OA)**

## 4A06 Meetings, Including Exit

.1 Exit Meeting Summary

On October 4, 2013, the NRC inspection team presented the inspection results during an exit meeting with Mr. Alan Torres, SCE&G General Manager for Nuclear Plant Construction along with other licensee and consortium staff members. The inspectors stated that no proprietary information would be included in the inspection report.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licenses and Contractor Personnel**

R. Albrecht – Rod Room Supervisor  
M. Alessandri – CB&I Services Material and Document Control Coordinator  
D. Arthurs – Warehouse Manager  
Z. Ashcraft - SC&G Quality Assurance  
R. Balubham - Westinghouse Configuration Management  
A. Banister - CB&I Power Records and Information Management  
C. Baucom – CB&I Licensing  
D. Bivins – Lead nuclear QA  
R. Chenault, Tool Room Supervisor  
T. Dills – Welding Superintendent  
D. Doyle – WEC senior quality engineer  
E. Draper, M&TE Supervisor  
R. Driscoll – CB&I Services Quality Manager  
J. Dunning – CB&I Power Rebar Foreman  
D. Jaynes – Warehouse General Foreman  
M. Manning - CB&I Power Records and Information Management  
R. Martin – Field Materials Manager  
B. McClung - CB&I Power Quality Assurance Manager  
J. McInerney - Westinghouse Configuration Management  
G. Sanders – SCE&G Licensing  
E. Strubble, Document Control Manager  
P. Williamson – Williams Project Quality Manager  
R. Young – Materials management quality engineer

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

None

### **LIST OF DOCUMENTS REVIEWED**

#### **Section 1P01**

##### **DCP**

APP-GW-GEE-3835, “EMC protection changes to RCP speed sensor and preamplifier,” Rev. 0  
APP-JY62-VFX-001, “AP1000 RCP speed sensor preamplifier equipment qualification specification released document list,” Rev. 3  
APP-JY62-VFX-002, “AP1000 RCP speed sensor preamplifier design specification released document list,” Rev. 1  
APP-JY62-Z0-001, “Class 1E RCP speed sensor preamplifier qualification unit specification,” Rev. 3  
APP-JY62-Z0-002, “Class 1E RCP speed sensor preamplifier specification,” Rev. 3  
APP-GW-GEE-4661, Seismic/LOCA RESM changes, Rev. 0  
APP-MI01-S3C-325, summary of design loads for the AP1000 reactor vessel flow skirt, Rev. 1  
APP-MI01-Z0-370, design specification for AP 1000 reactor vessel flow skirt, Rev. 3



APP-MI01-S3C-340, AP1000 reactor vessel flow skirt structural qualification, Rev. 1  
 APP-GW-GEE-4402, RELAP5 hydrodynamic loading analysis of AP1000 automatic depressurization system fourth stage squib valve actuation, Rev. 0

#### Drawings

APP-VFS-PLW-075, "Containment air filtration system auxiliary building room 12651 plant make-up air," Rev. 1, April 3, 2013

#### IR

11-249-M057, June 22, 2013

#### Procurement Advisory Release

4500260599-0121, "EMC qualification testing," Rev. 2, August 22, 2013

#### EDCRs

APP-R365-GEF-003, "Material Substitution Request for R365 Shims," Rev. 0  
 APP-1000-GEF-044, "Changes to Basemat Reinforcement Drawings," Rev. 0  
 VS2-000-GEF-000314, "Hold (3) Due to DI-OI-034617," Rev. 1  
 APP-1000-GEF-031, "West Shield Wall Dowell Rev.," Rev. 0  
 APP-1000-GEF-092, "Adjustment Tolerance on Type 2 Anchor Bolts," Rev. 0  
 APP-1210-GEF-048, "Conflicts with Wall Dowels on Line "11," Rev. 0  
 APP-CA20-GEF-850017, "CA20 Wetted Boundaries," Rev. 0  
 APP-CA20-GEF-1050, "CA20\_14 and CA20\_08-Faceplate Weld Rework," Rev. 0  
 APP-CA20-GEF-680, "CA20 OLPS for RNS Pump Supports," Rev. 0  
 APP-EY01-GEF-004, "Use of Teflon in AP1000 Electrical Penetration Assemblies," Rev. 0  
 APP-ML05-GEF-035, "Modifications of Seismic Guide Material for Penetrations 12454-ML-P10 and 12454-ML-P12 and Tolerances for Fin Plates," Rev. 0  
 APP-CB65-GEF-850001, "CB65 W8x28 Material Substitution," Rev. 0  
 APP-CB65-GEF-850000, "CB65 W8x28 Material Substitution," Rev. 1  
 APP-CA20-GEF-447, "Material Substitution – Unions for Couplers," Rev. 0  
 APP-VFS-GEF-025, "Incorporation of Containment Relief Design Change (APP-GW-GEE-19580 to APP-VFS-PLW-075 and APP-VFS-PLW-044," Rev. 0, April 30, 2013  
 APP-PV64-GEF-008, "PV64 MSIV actuator pressure transmitter grounding configuration," Rev. 0, January 25, 2013  
 APP-EY01-GEF-004, "Use of Teflon in AP1000 electrical penetration assemblies," Rev. 0  
 APP-GW-GEF-406, "Design temperature requirements for PBHT of SS pipe cold bend," Rev. 0  
 APP-SGS-GEF-123, "Revising SGS isometric callouts for radiation monitors SGS-JE-RE026A/B and RE027A/B," Rev. 0  
 APP-WLS-GEF-150, "Seismic classification for WLS isometrics," Rev. 0  
 APP-VWS-GEF-226, "EDCR to remove flange on VWS P&ID due to missed impact from GW-GEE-307," Rev. 0  
 APP-1220-GEF-125, "Additional reinforcement required for concrete beams for floor at EL 82'-6" areas 2&5," Rev. 0

#### Design Specification

APP-EY01-Z0-001, "Electrical Penetration Assemblies," Rev. 4

#### Procedures

APP-GW-GAP-420, "Engineering and Design Coordination Report," Rev. 7  
 WEC 3.4.1, "Change Control for the AP1000 Plant Program," Rev. 2.1

CMS-720-03-PL-00010.020, "Nuclear Quality Assurance Manual Section 2.0, Design Control," Rev. 10  
 WEC 3.2.1, "Safety Classification," Rev. 3  
 APP-GW-G1-014, "AP1000 Nuclear Safety Classification and Seismic Requirement Methodology"  
 WEC 3.4.1, Change control for the AP1000 plant program, Rev. 2.1  
 WEC 3.3.1, Design reviews, Rev. 5.0  
 CMS-720-03-PL-00010.020, Nuclear quality assurance manual section 2.0, design control, Rev. 10  
 NND-ES-0006, NND engineering document change process, Rev. 0  
 NEPP 4-13-4, Design change control (engineering & design coordination report), January 31, 2013  
 DAPP 5-12-2, AP1000 design criteria, September 13, 2013  
 DAPP 5-6-4, Change process for the AP1000 standard plant design, September 20, 2013  
 CSI 2-4-1, Design control change-nuclear change request, May 9, 2013

## **Section 1P02**

### Specifications

APP-CR01-Z0-011, Furnishing of Safety Related Reinforcing Steel  
 MS-SA-738B-2765, Material Specifications for SA 738 grade B Steel Plate

### Purchase Orders

J132177-J400-00, Rev. 30, Lenton Rebar Mechanical Couplers, QTY 100  
 J132177-J400-00, Rev. 35, Lenton Rebar Mechanical Couplers, QTY 500  
 132177, Inspection Attributes List for Threaded mechanical Splices for Reinforcing Steel  
 PO767248, 1/8" E9018M-H4R, Rev. 001  
 PO679465, OK Flux 10.72, Rev. 001  
 PO679457, 3/32" Diameter ENi4, Rev. 001

### Procedures

QAD 7.14 Receiving Inspection, Rev. 001  
 QS 15.01, Non-Conformance and Disposition Report, Rev. 004  
 APP-GW-GAP-106, Corrective Action Interface, Rev. 3  
 WEC 15.4, Field Deviation Report, Rev. 1

### Reports

MRR 132177-MRR-07788  
 Q445-13-0706, Quality Assurance Inspection, PO No. J132177-WESTINGHOUSE-SBOM-VS2-12-106-R1  
 Issue Report No. 13-217-M041  
 Issue Report no. 13-217-M039  
 VC-015  
 VC-007  
 VC-008  
 COC, SA738 Plate 3/4 x 4 x 43.7", #100-18, Heat # C0083-5CA  
 COC, A738 Plate 3/4 x 7x 7", #100-4, heat# C0083-5AA

**Section 1P03**

CMS-720-03-PR-04151 Distribution and Control of Technical Documents, Rev. 4  
 CMS-720-03-PR-04251 Distribution and Control of Nuclear Documents and Contract QA Handbooks, Rev. 1  
 CMS-720-03-PR-04201 Site Distribution of Detail Drawings & Emergency Change Notices, Rev. 2  
 NCSP-PCN-2-16-2-C, Construction Documents, Records Management and Control, Rev. 2  
 PRIMP-00010 Construction Site Document Control, Rev. 1  
 PRIMP-00009 Field Work Packaging, Rev. 1  
 QSI 17.01 Quality Assurance Records System, Rev. 2  
 QS 6.1, Document Control, Rev. H  
 VS3-1000-CCW-004-ITAAC VC Summer Unit 3 Nuclear Island Basemat Concrete, Rev 0  
 VS2-CA20-S4W-01001 Unit 2 Module CA20 Sub Assembly Repair/Rework  
 VS2-CA04-S5W-05001 Fabrication of Sub-Module CA04-05  
 VS2-WRS-POW-002, "Nuclear Island CR10 Preassembly – WRS Embedded Piping Installation (Below EL 82'-6"), Rev. 0  
 VS2-CA20-S4W-02002, "Assemble CA20 Sub-Modules 12, 13, and 14 Along Wall J2," Rev. 0  
 VS3-1210-CEW-001, "Work Package Technical Document List," Date 10/01/2013  
 VS3-1210-CRW-002, "Work Package Technical Document List," Date 10/01/2013  
 VS2-1210-COW-002, "Work Package Technical Document List," Date 10/01/2013

**Section 1P04**

APP-GW-GAP-113, Consortium AP1000 receiving interface, Rev. 2  
 QS 08.12, Material identification and control, Rev. 1  
 CMS-720-03-PR-07301, Item identification – piece marks, serialization and coding, Rev. 2  
 CMS-720-03-PR-02351, Classification of materials, Rev. 4  
 QA inspection report Q445-13-0966, "Rebar for #9 test bars," September 27, 2013  
 Certificate of compliance, VS3-CR01-Z0-011, "Reinforcing steel," Rev. 2, August 9, 2013  
 Material receiving report 132177-mrr-08142, September 9, 2013  
 VC-008, Welding material authorization release report, July 25, 2011  
 VC-015, Welding material authorization release report, August 15, 2012  
 VC-007, Welding material authorization release report, July 25, 2011  
 CMS-830-15-SP-12043, welding material specification for low-alloy steel covered electrode, Rev. 3  
 CMS-830-15-SP-12044, welding material specification for low-alloy submerged arc electrode – Eni4, Rev. 1  
 CMS-830-15-SP-12045, "Welding material specification for submerged arc welding flux – ESAB OK flux 10.72, Rev. 3  
 CMS-830-15-SP-12046, "welding material testing specification certification of ENi4 electrode & ESAB OK Flux 10.72, Rev. 5  
 CMS-830-15-SP-54004, quality assurance specification for welding materials nuclear power plant components, Rev. 2  
 CMS-830-15-SP-54004, quality assurance specification for welding materials nuclear power plant components, Rev. 3  
 CMS-830-15-SP-54004, quality assurance specification for welding materials nuclear power plant components, Rev. 4  
 CMS-830-15-SP-54005, quality assurance specification for welding flux nuclear power plant components, Rev. 1

CMS-830-15-SP-54005, quality assurance specification for welding flux nuclear power plant components, Rev. 3

### Section 1P05

CMS-720-03-PL-00010.080, Nuclear Quality Assurance Manual Section 8.0, Calibration of Measuring and Test Equipment.

CMS-830-15-WI-81021, Calibration and Verification Check of Welding Voltmeters.

CMS-720-03-PL-00010.080 (CB&I) NQAM Section 8 Calibration of Measuring and Test Equipment, Rev. 10

CMS-830-15-PR-81001 (CB&I) Corporate Calibration Program Requirements, Rev. 4

NCSP 3-10-3-B Measuring and Test equipment (M&TE) Control, Rev. 3

QS 12.01, Nuclear Calibration Program.

APP-CA20-GNR-850054 - CA20 Stud Deficiencies

N&D No. VCS-ND-12-0450, Sling Psychrometer (M&TE ID 15945)

OM-CP-QUADTEMP, Data Table for storage temperature of welding rods

QC25028-2, Calibration Checklist for Pressure Transducer

QC25299-2, Calibration Checklist for Data Logger

19879-13, Calibration Checklist for Torque Driver

99677-2, Calibration Checklist for Digital Thermometer

99685-2, Calibration Checklist for Digital Thermometer

VC039 Out of Calibration Vacuum Gauge

VC040 Out of Calibration Multimeter

VC3-005 Out of Calibration Nelson Stud Calibration Kit

### Section 1P06

QS 13.11 "Material/Equipment Storage," Rev. C

IR #13-276-M005 (Use of outdated procedure – Westinghouse Issue Report)

CR-NND-13-01046 (Use of outdated procedure - SCE&G Condition Report)

OB-VCS-2013-653 (Use of outdated procedure – CB&I Services Observation Report)

WSS-3081-QWI-13-01-01, "Storing Coating/Lining Materials," Rev. 1.

VS2-RCS-MV01-RVCH, Equipment Preservation Check Record – Reactor Vessel Closure Head, PM activities for week ending 201336

VS2-RCS-MV01-RVCH, Equipment Preservation Check Record – Reactor Vessel Closure Head, PM activities for week ending 201337

VS2-RCS-MV01-RVCH, Equipment Preservation Check Record – Reactor Vessel Closure Head, PM activities for week ending 201338

APP-MV01-GEM-002, "AP1000 Reactor Vessel Long Term Storage Manual," Rev. 1

CB&I Power FMC-1, "Filler Metal Control," Rev. 1

Temperature/Humidity logs for CB&I Services sensor numbers 3201871 and N62400

Temperature/Humidity logs for level A CB&I Power warehouse facilities, October 2, 2013

CB&I Power Warehouse Level A Temperature and Humidity Logs, October 2, 2013

CB&I Power Rod Room Temperature and Humidity Logs, October 3, 2013

### Section 1P07

IR Q445-13-0930, CA20-41 Floor Sub-module, Rev. B

NCR-13-1507, CA20-37 Floor Sub-module, Rev. 0

IR Q445-12-0885, CA20-64 Floor Sub-module, Rev. B

IR Q445-12-0183, CA20-16 Wall Sub-module, Rev. B

IR-CA20-GNR-092, CA20-07A Wall Sub-module, Rev. 0

IR C112-13-0247, CA20 Rebar fabrication, Rev. B  
 IR S511-13-0196, Unit 3 Basemat Tapered Threaded Rebar Terminators, Rev. B  
 IR S511-13-0213, Tapered Threaded Rebar Terminators, Rev. B  
 IR C112-13-0228, Unit 3 Nuclear Island Layers 4 and 5 Additional #9 Rebar, Rev. B  
 IR C112-13-0289, Unit 3 Nuclear Island South Elevator Pit and KB-13 Sump, Rev. B  
 IR C112-13-0294, Unit 3 Nuclear Island West Shield Wall Dowels #14 Rebar, Rev. B  
 IR S511-13-0209, FNC Mechanical Tapered Threaded Rebar Splicing Unit 3 Nuclear Island  
 Layer 4, Rev. B  
 IR S511-13-0209, Unit 3 Mechanical Tapered Threaded Rebar Splices, Rev. B  
 IR S511-13-0159, FNC Mechanical Tapered Threaded Rebar Splicing Unit 3 Nuclear Island  
 Layer 4, Rev. B  
 IR S511-13-0137, FNC Mechanical Tapered Threaded Rebar Splicing Unit 3 Nuclear Island  
 Layer 1, Rev. B  
 QS 15.01, Nonconformance and Disposition Report, Rev. 4

### LIST OF ACRONYMS

CA-20	Auxiliary Building Module
CB&I	Chicago Bridge and Iron
CFR	Code of Federal Regulations
M&TE	Measuring and Test Equipment
NRC	Nuclear Regulatory Commission
QA	Quality Assurance
QAPD	Quality Assurance Program Description
UFSAR	Updated Final Safety Analysis Report
WEC	Westinghouse Electric Company, LLC