

October 24, 2014

Mr. Dennis Dreyfus,  
Vice President, Quality Assurance  
Chicago Bridge & Iron Power  
128 South Tryon Street  
Charlotte, NC 28202

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT  
NO. 99901422/2014-201 OF CHICAGO BRIDGE & IRON POWER AND  
NOTICE OF NONCONFORMANCE

Dear Mr. Dreyfus:

During September 9 – 12, 2014, U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Chicago Bridge & Iron Power (CB&I Power) facility in Charlotte, NC. The purpose of this limited-scope inspection was to assess CB&I Power's compliance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance," and selected portions of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."

This inspection specifically evaluated implementation of CB&I Power's quality assurance (QA) program related to oversight of contracted activities, including procurement document control and external audits, and implementation of 10 CFR Part 21 for evaluating deviations and reporting defects that could cause a substantial safety hazard. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute NRC endorsement of CB&I Power's overall QA or Part 21 programs.

Based on the results of this inspection, the NRC inspection team found that the implementation of your QA program did not meet certain regulatory requirements imposed on you by your customers or NRC licensees. Specifically, the NRC inspection team determined that CB&I Power was not fully implementing its QA program in the areas of procurement document control; control of purchased material, equipment, and services; and corrective action. The Notice of Nonconformance (NON) enclosed with this letter identifies the specific findings and references to the pertinent requirements, and the enclosed inspection report describes in detail the circumstances surrounding it.

Please provide a written statement or explanation within 30 days from the date of this letter in accordance with the instructions specified in the enclosed NON. The NRC will consider extending the response time if you show good cause for the Agency to do so.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," the NRC will make available electronically for public inspection a copy of this letter, its enclosure, and your response, through the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), which

is accessible at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or Safeguards Information, so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected, and a redacted copy of your response that deletes such information. If you request that such material be withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information would create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

***/RA Richard Laura Acting for/***  
Kerri A. Kavanagh, Chief  
Quality Assurance Vendor Inspection Branch  
Division of Construction Inspection  
and Operational Programs  
Office of New Reactors

Docket No.: 99901422

Enclosures:

1. Notice of Nonconformance
2. Inspection Report No. 99901422/2014-201  
and Attachment

response should not include any personal privacy, proprietary, or Safeguards Information, so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected, and a redacted copy of your response that deletes such information. If you request that such material be withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information would create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

***/RA Richard Laura Acting for/***  
 Kerri A. Kavanagh, Chief  
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 Division of Construction Inspection  
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Docket No.: 99901422

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and Attachment

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NRO-002

<b>OFFICE</b>	NRO/DCIP/QVIB	NRO/DCIP/MVIB	NRO/DCIP/QVIB	NRO/DCIP/QVIB
<b>NAME</b>	AArmstrong (VHuckabay for)	JOrtega-Luciano (RPatel for)	VHuckabay	PPrescott
<b>DATE</b>	10/16/2014	10/14/2014	10/16/2014	10/16/2014
<b>OFFICE</b>	NRO/DCIP	NRO/DCIP/QVIB		
<b>NAME</b>	TFrye	KKavanagh (RLaura for)		
<b>DATE</b>	10/22/2014	10/22/2014		

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## NOTICE OF NONCONFORMANCE

Chicago Bridge & Iron Power  
128 South Tryon Street  
Charlotte, NC 28202

Docket No. 99901422  
Inspection Report No. 2014-201

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the Chicago Bridge & Iron Power (CB&I Power) facility in Charlotte, NC, during September 9, 2014 through September 12, 2014, certain activities were not conducted in accordance with NRC requirements contractually imposed on CB&I Power by its customers or NRC licensees:

- A. Criterion XVI, "Corrective Action," of Appendix B to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 states: "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management."

Section 16, "Corrective Action," of CB&I Power's Standard Nuclear Quality Assurance Program, SWSQAP 1-74A, Revision B, dated June 1, 2009, paragraph 1.1, states, in part: "Major and recurring conditions adverse to quality, such as failures, deficiencies, defective material and equipment, unsats, and nonconformances shall be identified, the cause(s) determined, and corrective and preventive action taken to preclude repetition."

Section 6.1.8 of CB&I Nuclear Quality Standard (QS) 16.05, "Corrective Action Program," Revision 04.00, dated August 25, 2014, states, in part: "For Significant Conditions Adverse to Quality (SCAQ), Preventive Actions shall be applied to prevent recurrence of the identified Root Cause(s), and Corrective Action(s) shall be taken to address the significant adverse condition, and identified Contributing Cause(s)."

Contrary to the above, as of September 12, 2014, CB&I Power failed to adequately identify and evaluate a significant condition adverse to quality, the cause of the condition, and the preventive corrective action to preclude repetition. Specifically, CB&I Power had two missed opportunities (Vendor Audits V2013-36, conducted in June 2013, and V2013-33, conducted in October 2013) to identify during the implementation audits that one of their suppliers, Specialty Maintenance and Construction, Inc. (SMCI), failed to have a program in place that meets the requirements for identifying nonconforming materials, parts, or components, as documented in Inspection Report 99901439/2014-201, dated May 16, 2014. Furthermore, CB&I Power's corrective action report number 2014-0968 dated May 16, 2014 failed to adequately evaluate the significant condition adverse to quality, identify the cause, and perform an extent of condition evaluation, for the CB&I Power's failure to identify this potential significant programmatic weakness in SMCI's quality assurance program.

Enclosure

This issue has been identified as Nonconformance 99901422/2014-201-01.

- B. Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50, states, in part: "These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery... The effectiveness of the control of quality by contractors and subcontractors shall be assessed by the applicant or designee at intervals consistent with the importance, complexity, and quantity of the product or services."

Criterion IV, "Procurement Document Control," of Appendix B to 10 CFR Part 50, states, in part: "Measures shall be established to assure that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and services, whether purchased by the applicant or by its contractors or subcontractors."

Section 7, "Control of Purchased Material, Equipment, and Services," of CB&I Power's Standard Nuclear Quality Assurance Program, SWSQAP 1-74A, Revision B, dated June 1, 2009, paragraph 2.0, "Tasks," states, in part: "Quality Assurance / Quality Control (QA/QC) shall:... Incorporate source evaluation/qualification results in the QRL [Quality Rating List] including supplier evaluations/reviews after award. Supplier post award evaluations/reviews shall be documented and shall consider the following where applicable: A. Receipt inspection, operating experience, and prior supplier evaluations. As the information becomes available, the results shall promptly be considered for effect on a supplier's continued qualification and adjustments made as necessary including corrective actions, adjustments of supplier audit plans, and input auditing teams, as warranted. Additionally, results shall be reviewed periodically to determine if, as a whole, they constitute a significant condition adverse to quality requiring additional action."

Section 4, "Procurement Document Control," of CB&I Power's Standard Nuclear Quality Assurance Program, SWSQAP 1-74A, Revision B, dated June 1, 2009, paragraph 1.1, states: "Procurement documents shall include the requirements necessary for establishing the quality of the procured material, equipment, and services."

Section 6.7.2 of CB&I Nuclear Quality Assurance Directive (QAD) 18.01, "Quality Assurance Audits," Revision 004, dated March 7, 2014, states, in part: "For Supplier audits:... The ATL [Audit Team Leader] shall evaluate each Finding response to verify that reported conditions have been appropriately addressed, as to cause, extent of condition, corrective action, and action taken to prevent recurrence; and that the time frames specified for completion of committed actions are reasonable and appropriate for reported conditions."

Section 6.6.1b CB&I QS 04.03, "Office Procurement and Subcontracting and Selection of Suppliers," Revision 03.00, dated May 30, 2014, states: "The SQC shall periodically review oversight activity results (e.g., scorecard/metrics, surveys, findings, trend data from source and/or receipt inspections, etc.) on the select

suppliers of components/materials and provide action recommendations as it relates to quality oversight activities.”

Contrary to the above, as of September 12, 2014, CB&I Power failed to establish adequate measures to assess the effectiveness of control of quality by a contractor consistent with the importance, complexity, and quantity of the product or services. Also, CB&I Power failed to establish measures to assure that applicable requirements which are necessary to assure adequate quality were suitably included or referenced in the documents for procurement of material, equipment, and services. Specifically, CB&I Power failed to ensure that significant conditions adverse to quality associated with findings Nos. V2013-30-01 and V2013-30-02, and conditions adverse to quality associated with findings Nos. V2013-30-04 and V2013-30-10, identified during Vendor Audit V2013-30 of Newport News Industrial Corporation (NNI), conducted in June 2013, have been appropriately addressed, prior to removing restrictions placed on the QRL for that supplier in October 2013. Furthermore, CB&I Power failed to ensure that appropriate QRL restrictions for NNI remained included or referenced in the procurement documents, by issuing Purchase Order Revision No. 132175-D100.SB003, Revision 35 on October 15, 2013 that removed the restrictions.

This issue has been identified as Nonconformance 99901422/2014-201-02.

Please provide a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Chief, Quality Assurance Vendor Inspection Branch, Division of Construction Inspection and Operational Programs, Office of New Reactors, within 30 days of the date of the letter transmitting this Notice of Nonconformance. This reply should be clearly marked as a “Reply to a Notice of Nonconformance” and should include for each noncompliance: (1) the reason for the noncompliance or, if contested, the basis for disputing the noncompliance; (2) the corrective steps that have been and the results achieved; (3) the corrective steps that will be taken to avoid further noncompliance; and (4) the date when the corrective action will be completed. Where good cause is shown, the NRC will consider extending the response time.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC’s Agencywide Documents Access and Management System (ADAMS), which is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or Safeguards Information (SGI) so that the NRC can make it available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material be withheld, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information would create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If SGI is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, “Protection of Safeguards Information: Performance Requirements.”

Dated this 24th day of October 2014.

**U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NEW REACTORS  
DIVISION OF CONSTRUCTION INSPECTION AND OPERATIONAL PROGRAMS  
VENDOR INSPECTION REPORT**

Docket No.: 99901422

Report No.: 99901422/2014-201

Vendor: Chicago Bridge & Iron Power  
128 South Tryon Street  
Charlotte, NC 28202

Vendor Contact: David Jantosik  
Senior Director, Nuclear Quality Assurance  
David.Jantosik@cbi.com  
(704) 343-7588

Nuclear Industry Activity: Chicago Bridge and Iron (CB&I) Power (formerly Shaw Nuclear Services), located in Charlotte, NC, is a subsidiary of CB&I, a multinational conglomerate engineering, procurement, and construction (EPC) company. CB&I Power is currently under contract with South Carolina Electric and Gas (SCE&G) and Santee Cooper to construct two AP1000 nuclear electric generating units at V.C. Summer Nuclear Station. Also, CB&I Power is under contract with Georgia Power Co. (a subsidiary of Southern Company) to construct two AP1000 units at the existing Vogtle Electric Generating Plant site.

Inspection Dates: September 9 – 12, 2014

Inspection Team: Paul Prescott NRO/DCIP/QVIB Team Leader  
Aaron Armstrong NRO/DCIP/QVIB  
Jonathan Ortega-Luciano NRO/DCIP/MVIB  
Victoria Huckabay NRO/DCIP/QVIB

Approved by: Kerri A. Kavanagh, Chief  
Quality Assurance Vendor Inspection Branch  
Division of Construction Inspection  
and Operational Programs  
Office of New Reactors

## **EXECUTIVE SUMMARY**

Chicago Bridge & Iron Power  
99901422/2014-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a limited scope vendor inspection at the Chicago Bridge & Iron Power (hereafter referred to as CB&I Power) facility, to verify that it had implemented an adequate quality assurance (QA) program that complies with the requirements of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities." The NRC inspection team reviewed oversight of contracted activities, including procurement document control, evaluation and disposition of nonconformance reports received from suppliers, and external audits; and qualification of audit personnel. In addition, the NRC inspection team also verified that CB&I Power had implemented a program under 10 CFR Part 21, "Reporting of Defects and Noncompliance," that met the NRC's regulatory requirements. The NRC inspection team conducted the inspection from September 9 through 12, 2014.

The following regulations served as the bases for the NRC inspection:

- Appendix B to 10 CFR Part 50
- 10 CFR Part 21

During the course of this inspection, the NRC inspection team implemented Inspection Procedure (IP) 43002, "Routine Inspection of Nuclear Vendors," and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance."

This was the first NRC inspection at the CB&I Power facility (formerly Shaw Nuclear Services), since it was acquired by CB&I in February 2013. The previous inspection of the facility, then Shaw Nuclear Services, was conducted in August 2011. CB&I Power is currently under contract with South Carolina Electric and Gas and Santee Cooper to construct two AP1000 nuclear electric generating units at V.C. Summer Nuclear Station. CB&I Power is also under contract with Georgia Power Co. (a subsidiary of Southern Company) to construct two AP1000 units at the existing Vogtle Electric Generating Plant site.

The information below summarizes the results of this inspection.

### **Nonconforming Materials, Parts, or Components and Corrective Action**

The NRC inspection team concluded that the implementation of CB&I Power's program for control of nonconformances is consistent with the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components" of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team determined that CB&I Power is implementing its policies and procedures for nonconforming materials, parts, or components. No findings of significance were identified.

The NRC inspection team determined that CB&I Power did not adequately implement the requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The NRC inspection team issued Nonconformance 99901422/2014-201-01 for CB&I Power's failure to ensure that one of its suppliers, Specialty Maintenance and Construction, Inc. (SMCI),



failed to have a program in place that meets the requirements of Criterion XV, “Nonconforming Materials, Parts, or Components,” of Appendix B to 10 CFR Part 50. Also, CB&I Power’s corrective action report 2014-0968 dated May 16, 2014 failed to adequately evaluate if there was a significant condition adverse to quality, identify the cause, and evaluate the extent of condition, for the CB&I Power’s failure to identify this potential significant programmatic weakness in SMC’s quality assurance program.

#### Oversight of Contracted Activities

The NRC inspection team determined that CB&I Power did not adequately implement the requirements of Criterion VII, “Control of Purchased Material, Equipment, and Services” and Criterion IV, “Procurement Document Control,” of Appendix B to 10 CFR Part 50. The NRC inspection team issued Nonconformance 99901422/2014-201-02 for CB&I Power’s failure to establish adequate measures to assess the effectiveness of control of quality by a contractor consistent with the importance, complexity, and quantity of the product or services. Also, CB&I Power failed to establish measures to assure that applicable requirements which are necessary to assure adequate quality were suitably included or referenced in the documents for procurement of material, equipment, and services. Specifically, CB&I Power failed to ensure that two significant conditions adverse to quality and two additional conditions adverse to quality identified during a Vendor Audit of Newport News Industrial Corporation (NNI), conducted in June 2013, have been appropriately addressed, prior to removing restrictions placed on the Quality Rating List (QRL) for that supplier in October 2013. Furthermore, CB&I Power failed to ensure that appropriate QRL restrictions for NNI remained included or referenced in the procurement documents, by issuing a Purchase Order Revision that removed the restrictions, in October 2013.

#### Training and Qualification of Audit Personnel

The NRC inspection team concluded that the implementation of CB&I Power’s training and qualification program is consistent with the regulatory requirements of Criterion II, “Quality Assurance Program,” of Appendix B to 10 CFR Part 50. Based on its review, the NRC inspection team determined that CB&I Power is adequately implementing its policies and procedures for training and qualification of audit personnel. No findings of significance were identified.

#### 10 CFR Part 21 Program

The NRC inspection team concluded that the implementation of CB&I Power’s 10 CFR Part 21 program is consistent with regulatory requirements. Based on its review, the NRC inspection team determined that CB&I Power is adequately implementing its policies and procedures for 10 CFR Part 21 evaluations and reporting. No findings of significance were identified.

## REPORT DETAILS

### 1. Nonconforming Materials, Parts, or Components and Corrective Action

#### a. Inspection Scope

The NRC inspection team reviewed CB&I Power's policies and procedures that govern the implementation of the control of nonconformances, to verify compliance with the requirements of Criterion XV, "Nonconforming Materials, Parts, or Components" and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed a sample of Nonconformance and Disposition (N&D) reports to verify that the control, evaluation, and disposition of nonconformances were in accordance with CB&I Power's procedural guidelines. The NRC inspection team also reviewed a sample of Corrective Action Reports (CARs) to verify there was adequate documentation and appropriate resolution of conditions adverse to quality. Finally, the NRC inspection team verified that CB&I Power's N&D reports and CARs provide a connection to the 10 CFR Part 21 program and that CB&I Power had established a system for the review of CARs and identification of trends.

In addition, the NRC inspection team reviewed a sample of 11 conditions identified by CB&I Power source inspectors as conditions adverse to quality, documented by CB&I Power in notices of unsatisfactory conditions (NUCs), and discussed with CB&I Power staff how these NUCs were processed.

The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

#### b. Observations and Findings

The following finding pertaining to CB&I Power's implementation of the corrective action program in accordance with the requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50, was identified during the review of CB&I Power's activities within the scope of the oversight of contracted activities, as described in Section 2 of this report.

During the review of CB&I Power's oversight of Specialty Maintenance and Construction, Inc. (SMCI), the NRC inspection team noted that CB&I Power performed two implementation audits of SMCI's quality assurance program of AP1000 module fabrication, for compliance with the applicable portion of Appendix B to 10 CFR Part 50 and the American National Standards Institute / American Society of Mechanical Engineers (ANSI/ASME) NQA-1-1994, "Quality Assurance Requirements for Nuclear Facility Applications." These implementation audits were performed by qualified auditors from CB&I Power.

CB&I Power's Audit Report number V2013-36 dated July 10, 2013 identified seventeen audit findings, including four Level 2 findings (classified as having a potentially minor effect on a basic component or nuclear safety) and thirteen Level 3 findings (classified as having no anticipated effect on a basic component or nuclear safety, but representing a non-compliance or programmatic /

administrative weakness that requires action). Audit Report V2013-36 also documented four recommendations provided by CB&I Power auditors. One of the recommendations was related to SMCI's implementation of its Nonconformance Program. The recommendation was to revise SMCI's procedure QP-15.0, "Nonconformance," to add nonconformance report (NCR) documentation to the NCR log, so that the log described the disposition of the NCRs as either: 1) Use-As-Is, 2) Reject/Scrap, 3) Repair/Rework, 4) Return-to-Vendor, or 5) Other. The checklist, which was completed as part of Audit Report V2013-36, documented that CB&I Power evaluated SMCI's Nonconformance Program and its implementation by reviewing a sample of three NCRs. CB&I Power concluded that SMCI's Nonconformance Program was satisfactory and met the requirements of Appendix B to 10 CFR Part 50 and ASME NQA-1. Furthermore, during a second implementation audit (CB&I Power's Audit Report number V2013-33, dated November 1, 2013), CB&I Power identified seven audit findings, all which were determined to be Level 3 findings, and seven recommendations. Audit Report V2013-33 documented the same recommendation for SMCI's Nonconformance Program as the one provided in Audit Report V2013-36. The checklist in Audit Report V2013-33 documented that CB&I Power evaluated SMCI's Nonconformance Program and its implementation by reviewing a sample of eleven NCRs. CB&I Power provided the same conclusion in Audit Report V2013-36 as in the previous implementation audit report, stating that SMCI's Nonconformance Program was found to be adequate and effectively implemented to meet the requirements of Appendix B to 10 CFR Part 50 and ASME NQA-1. The NRC inspection team noted that both CB&I Power's implementation audits of SMCI were led by the same CB&I Power Audit Team Leader.

The NRC performed an inspection of SMCI in April 2014, and the results were documented in inspection report number 99901439/2014-201, dated May 16, 2014. In this inspection report, the NRC inspection team issued a Notice of Nonconformance to SMCI for the failure to adequately identify, document, evaluate, segregate, disposition, and notify affected organizations of nonconforming products. Specifically, in ten out of the twenty one NCRs reviewed by the NRC inspection team, SMCI failed to provide objective evidence of the following: 1) proper identification and description of the cause of the nonconforming product or activity; (2) indication of whether the nonconformance was evaluated for 10 CFR Part 21 reportability; (3) disposition and justification of the acceptability of the nonconforming product or activity; and (4) an indication that the disposition was adequately completed to close the NCR. Based on the results of this inspection, the NRC inspection team concluded that SMCI's Nonconformance Program did not comply with the requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," of Appendix B to 10 CFR Part 50.

Following the NRC's issuance of a Notice of Nonconformance to SMCI, CB&I Power initiated corrective action report (CAR) number 2014-0968, stating that the inspection findings documented in the NRC inspection report of SMCI were not identified as part of CB&I Power's oversight activities of SMCI. The NRC inspection team noted that CAR 2014-0968 was initiated by the same CB&I Power's Audit Team Leader who conducted the two implementation audits

of SMCI. CB&I Power's evaluation, documented in CAR 2014-0968, stated that the issue was not a significant condition adverse to quality and that a root cause evaluation was not necessary to determine why CB&I Power failed to identify the Nonconformance program issues at SMCI, and required that only a direct cause evaluation be performed. Also, CB&I Power determined that an extent of condition evaluation was not necessary. CAR 2014-0968 stated the direct cause for not identifying the Nonconformance Program issues at SMCI was due to a lack of depth in investigating the criterion where the findings were identified. It further stated that the implementation audits were performed early in the manufacturing process, where the amount of activity in these areas had not progressed far enough to fully assess the ability of SMCI to successfully perform these activities. The NRC inspection team concluded that CB&I Power's evaluation and failure to perform an extent of condition evaluation were not adequate to address the cause of the condition adverse to quality. The NRC inspection team identified these issues as an example of Nonconformance 99901422/2014-201-01, for CB&I Power's failure to adequately evaluate if there was a significant condition adverse to quality, identify the cause, and evaluate the extent of condition, in connection with CB&I Power's failure to identify a potential significant programmatic weakness in SMCI's quality assurance program.

c. Conclusions

The NRC inspection team concluded that the implementation of CB&I Power's program for control of nonconformances is consistent with the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components" of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team determined that CB&I Power is implementing its policies and procedures for nonconforming materials, parts, or components. No findings of significance were identified.

The NRC inspection team determined that CB&I Power is not effectively implementing its corrective action program, in accordance with the requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The NRC inspection team issued Nonconformance 99901422/2014-201-01, for CB&I Power's failure to adequately evaluate if there was a significant condition adverse to quality, identify the cause, and evaluate the extent of condition, in connection with CB&I Power's failure to identify a potential significant programmatic weakness in SMCI's quality assurance program.

2. Oversight of Contracted Activities

a. Inspection Scope

The NRC inspection team reviewed CB&I Power's policies and procedures that govern the implementation of procurement document control and oversight of contracted activities, to verify compliance with the requirements of Criterion IV, "Procurement Document Control," Criterion VII, "Control of Purchased Material, Equipment, and Services," and Criterion XVIII, "Audits," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed a sample of supplier

(external) audits and surveillances to determine the adequacy of CB&I Power's performance of supplier oversight activities. The NRC inspection team also reviewed the disposition of audit and surveillance findings for adequacy. Further, the NRC inspection team reviewed a sample of procurement documents, to verify that the applicable quality requirements were appropriately included or referenced in CB&I Power's purchase orders. In addition, the inspection team discussed these programs with CB&I Power's management and technical staff.

The NRC inspection team also reviewed CB&I Power's process for evaluating supplier audits conducted by third-party organizations. These audits were performed by the Nuclear Industry Assessment Committee (NIAC) and Nuclear Procurement Issues Committee (NUPIC). The NRC inspection team reviewed CB&I Power's third-party audit evaluation implementing procedures Quality Assurance Directive (QAD) 7.17, "Supplier QA Program Evaluation," Revision 005, dated October 9, 2013; QAD 7.19, "Shaw Nuclear Use of Nuclear Industry Assessment Committee (NIAC) Member Audits," Revision 001, dated June 19, 2012; and QAD 7.21, "Shaw Nuclear Use of Third Party Audits," Revision O.1, dated May 8, 2013. The NRC inspection team reviewed a sample of third-party audit evaluations. The sample included: 1) A NUPIC audit of PCI Energy Services, which provides welding inspection, nondestructive examination (NDE) and machining services, and is a supplier of weld filler material; 2) A NIAC audit of Consolidated Power Supply – Engineered Product Division, which is a material organization, and provides engineering and fabrication services in accordance with the American Society of Mechanical Engineers (ASME) Section III; and 3) A NIAC audit of Global Quality Assurance, which provides auditing services. The NRC inspection team reviewed CB&I Power's completed audit evaluation forms and the associated audit reports of audits conducted by a third party. The results were verified against the information in CB&I Power's Quality Rating List (QRL).

The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

b.1 CB&I Power's Oversight of Newport News Industrial Corporation

The NRC inspection team reviewed CB&I Power's oversight of Newport News Industrial Corporation (NNI). CB&I Power's Audit Report number V2013-30 dated July 12, 2013, identified fifteen audit findings, including two Level 1 findings (classified as having actual, or potentially significant, effect on a basic component or nuclear safety, or collective significant impact of lower level findings; also, potential significant conditions adverse to quality are classified as Level 1 findings), nine Level 2 findings, and four Level 3 findings. Based on the results of the audit, CB&I Power added five restrictions to the QRL for NNI, which were based on the findings identified during Audit V2013-30 and were intended to prevent NNI from shipping items until the stipulated conditions were satisfied. The restrictions required, in part, that NNI submit root cause evaluations to CB&I Power for the two Level 1 findings (Audit findings nos. V2013-30-01 and V2013-30-02), and resolve the two additional Level 2

findings (Audit findings nos. V2013-30-04 and V2013-30-10), identified during Audit V2013-30. The addition of the QRL restrictions for NNI was documented on a "QRL Add/Change Approval Form" dated July 31, 2013, and approved by the Supplier Quality Committee (SQC) on August 1, 2013. On August 7, 2013, CB&I Power issued Purchase Order Revision number 132175-D100.SB003, Revision 29 to NNI, to add the QRL restrictions for NNI.

In September 2013, CB&I Power conducted a surveillance at NNI, for the purpose of reviewing, assessing, and verifying corrective actions taken by NNI, to address the findings identified during Audit V2013-30. This surveillance was documented in Surveillance Report number VS2013-21, dated September 20, 2013. While resolution of several audit findings was verified as acceptable, the surveillance report stated that six of the fifteen audit findings remained open, as further verification was required to close those findings. The six open findings included Audit Findings nos. V2013-30-01, V2013-30-02, V2013-30-04, and V2013-30-10 that were the subject of the QRL restrictions placed on NNI by CB&I Power. It was further noted that the root cause evaluations required for the two Level 1 findings had not yet been completed by NNI, as of the time of CB&I Power surveillance VS2013-21.

Despite the implementation of the required corrective actions by NNI being incomplete and the verification thereof by CB&I Power still pending, on September 26, 2013, CB&I Power initiated the removal of QRL restrictions for NNI, which was documented on the "QRL Change Approval Form," which was approved by the SQC on October 1, 2013. CB&I Power subsequently issued Purchase Order Revision number 132175-D100.SB003, Revision 35 on October 15, 2013, to remove the QRL restrictions for NNI.

In December 2013, CB&I Power conducted another follow-up surveillance at NNI, for the purpose of reviewing, assessing, and verifying additional corrective actions that remained after the completion of surveillance VS2013-21. This surveillance was documented in Surveillance Report number VS2013-29, dated December 18, 2013. During this surveillance, CB&I auditors verified the completion of all remaining corrective actions and all audit findings were closed.

The NRC inspection team concluded that the removal of QRL restrictions for NNI, prior to CB&I Power verifying the completion of corrective action by the supplier, and subsequent revision of the Purchase Order to remove such restrictions, was not adequate to ensure effective control of quality of items and services supplied to CB&I Power by NNI. The NRC inspection team identified these issues as an example of Nonconformance 99901422/2014-201-02, for CB&I Power's failure to establish adequate measures to assess the effectiveness of control of quality by a contractor, as well as failure to establish measures to assure that applicable requirements which are necessary to assure adequate quality were suitably included or referenced in the documents for procurement of material, equipment, and services.

b.2 CB&I Power's oversight of Specialty Maintenance and Construction, Inc.

The NRC inspection team reviewed CB&I Power's oversight of SMCI. One finding was identified during the review, pertaining to CB&I Power's implementation of the corrective action program, in accordance with the requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The finding is described in Section 1 of this report.

c. Conclusions

The NRC inspection team determined that CB&I Power is not effectively implementing its oversight of contracted activities in accordance with the requirements of Criterion VII, "Control of Purchased Material, Equipment, and Services," and Criterion IV, "Procurement Document Control," of Appendix B to 10 CFR Part 50. The NRC inspection team issued Nonconformance 99901422/2014-201-02, for CB&I Power's failure to verify the completion of corrective actions by its supplier, NNI, prior to lifting the QRL restrictions for that supplier and prior to issuing a revision to the Purchase Order that removed such restrictions. Additionally, CB&I Power failed to identify a potentially significant programmatic weakness in SMCI's Quality Assurance Program.

3. Training and Qualification of Audit Personnel

a. Inspection Scope

The NRC inspection team reviewed CB&I Power's auditor qualification records and associated training program, to verify that CB&I Power was implementing training activities in a manner consistent with regulatory requirements and industry standards. The NRC inspection team reviewed the training and qualification process for CB&I Power's audit personnel responsible for oversight of suppliers, to verify conformance with the requirements of Criterion II, "Quality Assurance Program," of Appendix B to 10 CFR Part 50. In addition, the NRC inspection team reviewed supplier audit reports and the disposition of findings, as discussed in Sections 1 and 2 of this inspection report, to ensure adequate auditor implementation of the program.

The NRC inspection team verified that CB&I Power had a program and procedures in place for the qualification and training of audit personnel, and that the program and procedures are consistent with regulatory requirements. The program and procedures provide for the indoctrination and training of audit personnel, to ensure that suitable proficiency is achieved and maintained.

The NRC inspection team reviewed the training and qualification records of a sample of CB&I Power's auditors, to confirm that all required training had been completed and maintained, and that qualifications and certification were in accordance with CB&I Power's procedures. The NRC inspection team reviewed CB&I Power's QAD 02.13, "Qualification and Certification of Personnel Performing Quality Assurance Audits," Revision 001, dated June 20, 2013.

The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team concluded that CB&I Power's program requirements for training and qualification of auditors are consistent with the regulatory requirements Criterion II, "Quality Assurance Program," of Appendix B to 10 CFR Part 50. Based on the sample of auditor qualifications reviewed, the NRC inspection team concluded that CB&I Power's auditor qualification procedures were being effectively implemented. No findings of significance were identified.

4. 10 CFR Part 21 Program

a. Inspection Scope

The NRC inspection team reviewed CB&I Power's SWSQAP 1-74A, "Standard Nuclear Quality Assurance Program," dated June 1, 2009, and procedures that govern the implementation of 10 CFR Part 21 program, to determine compliance with the requirements of 10 CFR Part 21. Specifically, the NRC inspection team focused on Nuclear Quality Standard (QS) 16.03, "Identifying and Reporting Defects and Failures to Comply Under 10CFR21 and 10CFR50.55(e)," Revision 03.01, dated June 25, 2014. The NRC inspection team also reviewed the three CB&I Power procedures that feed into QS 16.03. The three procedures reviewed were QS 16.05, "Corrective Action Program," Revision 04.00, dated August 25, 2014; QS 15.01, "Nonconformance & Disposition Report," Revision 05.00, dated June 17, 2014; and QS 14.02, "Inspection Report System," Revision 01.00, dated June 12, 2014. The NRC inspection team reviewed a sample of CB&I Power's 10 CFR Part 21 evaluations from the last two years. The NRC inspection team discussed the 10 CFR Part 21 evaluation and reporting process with members of management and technical staff responsible for oversight of the 10 CFR Part 21 evaluation program.

The NRC inspection team noted that CB&I Power's 10 CFR Part 21 program was governed by QS 16.03, which is the process for the identification, evaluation, resolution, and reporting of potential 10 CFR Part 21 issues. QS 16.03 required that CB&I Power's personnel who have identified a deviation or failure to comply to document these conditions as CB&I Power's CARs, N&D reports, or inspection reports (IRs). These possible reportable conditions were documented on QA Form 16007, "Reportability Initial Evaluation." The appropriate evaluator was then assigned by QA and Engineering. After the evaluation was completed, it was reviewed by the Chief Mechanical Engineer (CME), Chief Licensing Engineer, and Discipline Chief Engineer, for approval. After approval, the CME was then responsible for tracking, disposition, and timely closure of the documented issues. Once issues were identified and documented



in accordance with QS 16.03, the evaluated issues were appropriately addressed and dispositioned within 60 calendar days from the date of discovery.

The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

Based on the review of CB&I Power's 10 CFR Part 21 program, implementing procedures, and a sample of 10 CFR Part 21 evaluations, the NRC inspection team determined that CB&I Power's process met regulatory requirements. No findings of significance were identified.

5. Entrance and Exit Meetings

On September 9, 2014, the NRC inspection team discussed the scope of the inspection with Mr. Dennis Dreyfus, Vice President, Quality Assurance; Mr. David Jantosik, Senior Director, Nuclear Quality Assurance; and other CB&I Power management and technical staff. On September 12, 2014, the NRC inspection team presented the inspection results and observations during an exit meeting with Mr. Jantosik and other CB&I Power management and technical staff. The attachment to this report lists the attendees of the entrance and exit meetings.

## ATTACHMENT

### 1. ENTRANCE/EXIT MEETING ATTENDEES AND KEY POINTS OF CONTACT

Name	Title	Affiliation	Entrance	Exit	Interviewed
Dennis Dreyfus	Vice President, Quality Assurance	Chicago Bridge and Iron Power (CB&I Power)	X		
David Jantosik	Senior Director, Nuclear Quality Assurance	CB&I Power	X	X	X
Robert Otis	Quality Manager	CB&I Power	X	X	
Patrick Sheldon	Director, Engineering	CB&I Power	X	X	
Kimberly Moore	QA Specialist	CB&I Power	X		X
Marilyn Kavchak	Nuclear Audit Manager, Quality Assurance	CB&I Power	X	X	X
Curtis Castell	Licensing Manager, Regulatory Compliance	CB&I Power	X	X	X
Shen Fong**	Engineering Manager	CB&I Power	X	X	X
Randy Vigor*	Executive Director / Manager of Projects	CB&I Power	X	X	
Ed Brewer	QA Manager	CB&I Power	X		
Dennis Brown	Senior Project Engineer	CB&I Power	X		
Fred Dykstra	Senior Construction Manager	CB&I Power	X		
Jeff Beebe	QA Manager	CB&I Power	X	X	
Ronald Stevens	Director, Licensing	CB&I Power	X		
Tamer Rezk	Quality Manager	CB&I Power		X	X
Deborah Gustafson	Vice President, Engineering	CB&I Power	X		
Michael Hadsel	Director, Procurement	CB&I Power	X		
Steven Courtney**	Business Line Manager	CB&I Power	X	X	
James DeAngelis	Nuclear Procurement QA Manager	CB&I Power	X	X	X
Michael Kanavy	Engineering Manager	CB&I Power		X	
Michael Annacone	Vice President, Licensing and Regulatory Compliance	CB&I Power	X		
Ann Miller*	QA Surveillance Supervisor	CB&I Power	X		
Darrell Fujiyoshi*	Licensing Lead Engineer, Vogtle	CB&I Power	X		
Ricky Crews*	QA Manager	CB&I Power	X		
Buck Blum*	Director, Procurement	CB&I Power	X		
Rebecca Lively	QA Specialist	CB&I Power			X
Tanya Blyther	QA Specialist	CB&I Power			X
Paul Prescott	Team Leader	NRC/NRO	X	X	
Aaron Armstrong	Inspector	NRC/NRO	X	X	
Victoria Huckabay	Inspector	NRC/NRO	X	X	
Jonathan Ortega-Luciano	Inspector	NRC/NRO	X	X	

\*Participated by teleconference

\*\*Participated in exit meeting by teleconference

2. INSPECTION PROCEDURES USED

Inspection Procedure (IP) 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 13, 2012.

IP 43002, "Routine Inspections of Nuclear Vendors," dated July 15, 2013.

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description	Applicable ITAAC
99901422/2014-201-01	Opened	NON	Criterion XVI	N/A
99901422/2014-201-02	Opened	NON	Criteria IV and VII	N/A

4. DOCUMENTS REVIEWED

Policies and Procedures

1. Shaw Standard Nuclear Quality Assurance Program SWSQAP 1-74A, 2000 Edition, Revision B, dated June 1, 2009
2. Nuclear Quality Standard QS 4.3, "Office Procurement and Subcontracting and Selection of Suppliers," Revision 002, dated February 28, 2013
3. QS 04.03, "Office Procurement and Subcontracting and Selection of Suppliers," Revision 03.00, dated May 30, 2014
4. QS 07.08, "Supplier's Documentation Review," Revision F, dated May 19, 2011
5. QS 14.02, "Inspection Report System," Revision 01.00, dated June 12, 2014
6. QS 15.01, "Nonconformance & Disposition Report," Revision 05.00, dated June 17, 2014
7. QS 15.03, "Risk Release of UNSAT/Nonconforming Material/Equipment," Revision 01.00, dated July 10, 2014
8. QS 16.01, "Problem Report System," Revision G, dated April 18, 2011
9. QS 16.03, "Identifying and Reporting Defects and Failures to Comply Under 10CFR21 and 10CFR50.55(e)," Revision 03.01, dated June 25, 2014
10. QS 16.05, "Corrective Action Program," Revision 04.00, dated August 25, 2014
11. QS 16.06, "Causal Analysis," Revision A, dated November 6, 2008
12. QS 18.1, "Quality Audit Program," Revision 001, dated June 18, 2012
13. QS 18.01, "Quality Audit Program," Revision 02.01, dated March 7, 2014
14. Nuclear Quality Assurance Directive QAD 02.13, "Qualification and Certification of Personnel Performing Quality Assurance Audits," Revision 001, dated June 20, 2013
15. QAD 04.04, "QA Program Requirements for the Procurement of QA/QC Services," Revision 01.01, dated February 19, 2014
16. QAD 7.3, "Procurement Quality Assurance Supplier Oversight Program," Revision 001, dated June 27, 2012
17. QAD 07.17, "Supplier QA Program Evaluation," Revision 004, dated February 27, 2013
18. QAD 07.17, "Supplier QA Program Evaluation," Revision 005, dated October 9, 2013

19. QAD 7.19, "Shaw Nuclear Use of Nuclear Industry Assessment Committee (NIAC) Member Audits," Revision 001, dated June 19, 2012
20. QAD 7.21, "Shaw Nuclear Use of Third Party Audits," Revision O.1, dated May 8, 2013
21. QAD 18.01, "Quality Assurance Audits," Revision 002, dated February 27, 2013
22. QAD 18.01, "Quality Assurance Audits," Revision 003, dated August 29, 2013
23. QAD 18.01, "Quality Assurance Audits," Revision 04.00, dated March 7, 2014
24. QAD 18.13, "Quality Assurance Supplier Surveillances," Revision 000, dated February 19, 2013
25. QAD 18.13, "Quality Assurance Supplier Surveillances," Revision 01.00, dated February 3, 2014

### QA Forms

1. QA Form 02031, "Record of Auditor Qualification," Revision 001
2. QA Form 04002, "QRL Supplier / Subcontractor Status Change Notification," Revision 00
3. QA Form 07001, "Type "B" Inspection Report," Revision 002
4. QA Form 07002, "Notice of Unsatisfactory Conditions (UNSATs)," Revision 002
5. QA Form 07007, "QRL Change Approval Form," Revision 000
6. QA Form 07008, "Quality Assurance Manual Review – QA Category I," Revision 000
7. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e))," Revision 002
8. QA Form 16007, "Reportability Initial Evaluation," Revision 01
9. QA Form 14001, "Type "A" Inspection Report," Revision 01
10. QA Form 15004, "Significance Review Screening," Revision 003
11. QA Form 18004, "Completed Audit Plan Checklist Approval," Revision 000
12. QA Form 18004, "Completed Audit Plan Checklist Approval," Revision 001
13. QA Form 18005, "Audit Team Briefing," Revision 003
14. QA Form 18010, "NIAC Audit Evaluation," Revision 001
15. QA Form 18011, "Surveillance Report," Revision 002
16. QA Form 18012, "Audit Plan Checklist – Supplier," Revision 000
17. QA Form 18012, "Audit Plan Checklist – Supplier," Revision 01
18. QA Form 18013, "Audit Plan Checklist," Revision 002

### Training Records and Associated Documents

1. QA Form 02031, "Record of Auditor Qualification," for Margaret Ballard
2. QA Form 02031, "Record of Auditor Qualification," for Daniel Capouellez
3. QA Form 02031, "Record of Auditor Qualification," for Michael Hedden
4. QA Form 02031, "Record of Auditor Qualification," for Michael Huss
5. QA Form 02031, "Record of Auditor Qualification," for Robert O'Leary

### Procurement Documents

1. CB&I Requisition for Purchase Order Revision, JO/WO No. J132175, Requisition Number 132175-D100.SB003, Revision 30, updating QRL restrictions for Newport News Industrial Corporation (NNI), dated August 6, 2013
2. CB&I Purchase Order Revision No. 132175-D100.SB003, Revision 29, to NNI, adding QRL restrictions, dated August 7, 2013

3. CB&I Requisition for Purchase Order Revision, JO/WO No. J132175, Requisition Number 132175-D100.SB003, Revision 36, removing QRL restrictions for NNI, dated October 10, 2013
4. CB&I Purchase Order Revision No. 132175-D100.SB003, Revision 35, to NNI, removing QRL restrictions, dated October 15, 2013
5. CB&I Purchase Order Revision No. 132175-D100.CA006, Revision 6, to Specialty Maintenance and Construction, Inc. (SMCI), adding QRL restrictions, dated June 11, 2014

#### Supplier Audit Reports and Associated Documents

1. QA Form 18010, "NIAC Audit Evaluation," Revision 001, for Global Quality Assurance and Consolidated Power Supply – Engineered Products Division, conducted on January 13 - 14, 2011
2. QA Form 18010, "NIAC Audit Evaluation," Revision 001, for NIAC Audit of Consolidated Power Supply – Engineered Products Division, NIAC Audit Number 17145, conducted on May 15 – 17, 2012
3. NUPIC Audit of PCI Energy Services, Lake Bluff, IL, NUPIC Audit Number 23752, conducted on March 3 – 7, 2014
4. Shaw Nuclear Services Audit Report No. V2012-22 of Cives Steel Company, dated July 21, 2012
5. QA Form 18004, "Completed Audit Plan Checklist Approval," Revision 000, completed for Audit No. V2013-03, "Audit of Shaw Modular Solutions – Lake Charles, LA," dated April 8, 2013
6. Shaw Nuclear Services Quality Assurance audit of Shaw Modular Solutions / CB&I Lake Charles, Audit Report No. V2013-03, dated March 29, 2013
7. Audit Report No. V2013-28 of Cives Steel Company, dated February 26, 2013
8. CB&I Power Quality Assurance Notification of Close-Out of Audit V2013-28 (February 4 – 7 2013) and Surveillance VS2013-017 (April 3 – 5, 2013) Conducted of Cives Steel Company – Fabrication Facility in Thomasville, GA, dated June 7, 2013
9. Audit Team Briefing for Audit No. V2013-03 of Shaw Modular Solutions, dated February 21-22, 2013
10. CB&I Nuclear Quality Assurance Audit Report No. V2013-30 of Newport News Industrial Corporation (NNI), dated July 12, 2013
11. CB&I Nuclear Qualification Assurance Audit of Newport News Industrial Corporation (NNI), Audit No. V2013-30\*, dated May 30, 2013
12. CB&I Nuclear Quality Assurance Audit Plan Scope for Audit No. V2013-30 of NNI, dated June 3, 2013
13. QA Form 18005, "Audit Team Briefing," Revision 003, completed for Audit No. V2013-30 of NNI, dated June 17, 2013
14. QA Form 18012, "Audit Plan Checklist – Supplier," completed for Audit No. V2013-30 of NNI, Revision 000, dated June 24 – 27, 2013
15. Closure of NNI Audit No. V2013-30, June 24 – 27, 2013, letter dated December 19, 2013
16. Audit Report No. V2013-33 of Specialty Maintenance and Construction, Inc. (SMCI), dated November 2, 2013
17. Audit Team Briefing for Audit No. V2013-33 of SMCI, dated October 3, 2013
18. Audit Report No. V2013-36 of SMCI, dated July 10, 2013
19. Audit Team Briefing for Audit No. V2013-36 of SMCI, dated June 13, 2013

20. CB&I Nuclear Quality Assurance Audit Report, Audit No. V2014-33 of CB&I Lake Charles, dated July 7, 2014
21. CB&I Quality Assurance Audit of the Corrective Action Program at CB&I Lake Charles, LA, Audit No. V2013-49, dated December 10, 2013

*\*Note: The title of the document incorrectly references Audit No. V2013-02 instead of V2013-30.*

#### Supplier Surveillance Reports and Associated Documents

1. CB&I Power Quality Assurance Surveillance Report No. VS2013-008, of Cives Steel Company, dated August 9, 2013
2. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS-2013-011, of Cives Steel Company, dated November 26, 2013
3. CB&I Power Quality Assurance Surveillance Report No. VS2013-017, of Cives Steel Company, dated May 3, 2013
4. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS2013-021, of Newport News Industrial (NNI), dated September 20, 2013
5. Surveillance Report No. VS2013-029, of Newport News Industrial Corporation (NNI), dated December 18, 2013
6. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS-2014-01, "Audit Finding Status – CB&I Power Audit V2013-03," of CB&I Lake Charles (LC), dated January 27, 2014
7. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS-2014-11, of Specialty Maintenance and Construction, Inc. (SMCI), dated February 26, 2014
8. QA Form 18011, "Surveillance Report," Revision 002, Surveillance Report No. VS-2014-24, "Quarterly Surveillance at NNI VS-2014-24, located in Newport News, VA," dated April 9, 2014
9. CB&I Surveillance Checklist for Surveillance VS-2014-24, of NNI, dated April 8, 2014
10. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS-2014-26, of SMCI, dated June 5, 2014
11. CB&I Power Quality Assurance Surveillance Finding Response Evaluation, Specialty Maintenance and Construction, Inc. (SMCI) – Surveillance No. VS-2014-26: Updated Status, dated August 14, 2014
12. CB&I Power Quality Assurance Surveillance Finding Response Evaluation, Specialty Maintenance and Construction, Inc. (SMCI) – Surveillance No. VS-2014-26, Updated Status, dated September 1, 2014
13. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS-2014-38, of Cives Steel Company, dated June 17, 2014
14. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS-2014-39, of NNI, dated July 22, 2014
15. QA Form 18012, "Surveillance Plan Checklist – Supplier," Revision 000, completed for Surveillance No. VS-2014-39 of NNI, dated June 16, 2014
16. QA Form 18011, "Surveillance Report," Revision 002, Surveillance Report No. VS-2014-45, "Audit Finding Status – CB&I Power Audit V2014-33," of CB&I Lake Charles (LC), dated January 27, 2014
17. QA Form 18011, "Surveillance Report," Revision 002, completed for Surveillance Report No. VS-2014-98, of SMCI, dated August 4, 2014
18. CB&I Power Quality Assurance Follow-up Visit – SMCI Lakeland, FL, dated September 11, 2014

## Other Supplier Oversight Documents

1. CB&I Power Quality Rating List, Revision 1014, dated September 5, 2014
2. CB&I Nuclear Oversight Schedule 2014, Revision 16, dated September 3, 2014
3. QA Form 07007, "QRL Change Approval Form," Revision 000, documenting addition of restrictions for Vendor Number 13-018, Specialty Maintenance and Construction, Inc. (SMCI), dated May 29, 2014
4. QA Form 04002, "QRL Supplier / Subcontractor Status Change Notification," Revision 00, documenting the change in QRL restrictions for QRL Supplier Number 13-018, Specialty Maintenance and Construction, Inc. (SMCI), dated July 31, 2014
5. QA Form 07007, "QRL Change Approval Form," Revision 000, documenting removal of a QRL restriction for Vendor Number 13-018, SMCI, dated July 31, 2014
6. QA Form 04002, "QRL Supplier / Subcontractor Status Change Notification," Revision 00, documenting QRL status change for QRL Supplier Number 13-018, Specialty Maintenance and Construction, Inc. (SMCI), dated September 5, 2014
7. QA Form 07007, "QRL Change Approval Form," Revision 000, documenting removal of QRL restrictions for Vendor Number 13-018, SMCI, dated September 5, 2014 (approved on September 10, 2014)
8. QRL Add/Change Approval Form for Vendor No. 11-058, Newport News Industrial Corporation (NNI), dated July 31, 2013 (approved on August 1, 2013)
9. QRL Add/Change Approval Form for Vendor No. 11-058, Newport News Industrial Corporation (NNI), dated September 26, 2013 (approved on October 1, 2013)
10. QA Form 04002, "QRL Supplier / Subcontractor Status Change Notification," Revision 00, documenting QRL status change for QRL Supplier Number 13-051, Oregon Iron Works, dated September 4, 2014
11. QA Form 07007, "QRL Change Approval Form," Revision 000, documenting addition of restrictions for Vendor Number 13-051, Oregon Iron Works, dated September 3, 2014 (approved on September 4, 2014)
12. QA Form 07007, "QRL Change Approval Form," Revision 000, for PCI Energy Services, dated October 9, 2013
13. "eCAR Updates/Findings; CARs/Findings 2013" spreadsheet, dated September 10, 2014
14. "eCAR Updates/Findings; CARs/Findings 2014" spreadsheet, dated September 10, 2014
15. Supplier Quality Committee [SQC] Charter, CB&I – Nuclear, Charlotte, NC, dated August 11, 2014
16. Supplier Quality Committee Scorecards and Trends, dated June 2014
17. Supplier Quality Committee Scorecards and Trends, dated July 2014
18. CB&I SQC Metrics, dated June 2014
19. CB&I SQC Metrics, dated July 2014
20. CB&I spreadsheet summarizing total findings from audits / surveillances per each Criteria, for selected suppliers, dated August 18, 2014

## Quality Assurance Inspection Reports

1. Quality Assurance Inspection Report – Type A No. Q445-011-14-0389
2. Quality Assurance Inspection Report – Type A No. Q445-011-14-0398
3. Quality Assurance Inspection Report – Type A No. Q445-011-14-0510
4. Type "B" Inspection Report No. 132175-D100.SB003-405-004-105
5. Type "B" Inspection Report No. 132175-D100.CA006-502

6. Type "B" Inspection Report No. 132175-D100.CA007-038-4
7. Type "B" Inspection Report No. 132176-D100.CA011-405-004-002
8. Type "B" Inspection Report No. 132175-D100-405-004-105

#### Nonconformance & Disposition Reports

1. APP-1208-GNR-850084 (APP-SCN-140512) Significance Screening Review
2. Nonconformance & Disposition Report (N&D) No. APP-1208-GNR-850084
3. N&D Report No. APP-CA03-GNR-85085
4. N&D Report No. VS2-SS01-GNR-000083
5. N&D Report No. VS2-CE01-GNR-000044
6. N&D Report No. VS2-CA20-GNR-000178
7. N&D Report No. VS3-CE01-GNR-000016
8. N&D Report No. APP-1208-GNR-850105
9. N&D Report No. APP-CA01-GNR-850280
10. N&D Report No. SV3-CE01-GNR-000010
11. N&D Report No. SV3-CA20-GNR-000061
12. N&D Report No. SVO-CE01-GNR-000002
13. N&D Report No. APP-CA20-GNR-850315
14. N&D Report No. APP-CA03-GNR-850075

#### Corrective Action Reports

1. CAR 2013-1250, Temporary Change Notice Compliance
2. CAR 2013-1889, Gap Between Inspection Reports on Scrap/Return to Vendor Items and Reportability not Resolved (CR 715323)
3. CAR 2014-0877, Responsibility of Transmitting Closed N&Ds to Suppliers
4. CAR 2014-0968, Issues Documented in NRC Supplier Inspection Report Were Not Previously Identified by CB&I

#### Corrective Action Reports Generated During the NRC Inspection

1. CAR 2014-1764, Inconsistencies in Procedures Related to QA Supplier Audits and Surveillances
2. CAR 2014-1765, QRL Supplier Annual Evaluation Original Due Date Preservation
3. CAR 2014-1767, Evaluate the Use of NIAC Audits to Verify Compliance with QAD 7.9 Section 6.1.7
4. CAR 2014-1772, Potential to Miss Performing a Qualification Audit for Cat I Supplier
5. CAR 2014-1774, Newport News Industrial QRL Restrictions Removed Prior to Verification of Corrective Actions to Prevent Recurrence
6. CAR 2014-1778, Two WRL Change Approvals Approved without Proper Documentation of SQC Approval
7. CAR 2014-1779, Completeness and Accuracy of Completed Records of Audit V2013-30, Audit Plan Checklist
8. CAR 2014-1781, Finding Closure
9. CAR 2014-1782, Revise QS 18.01, Quality Assurance Program, Related to the Use of the Term "Observation" When "Finding" Is Actually the Appropriate Term to Capture the Issue Identified
10. CAR 2014-1783, Missed Opportunity CAR 2014-968



## 10 CFR Part 21 / 10 CFR Part 50.55(e) Evaluations

1. Shaw Modular Solutions Evaluation, "SMS discovered after a review of WPS-1-1-107 of an unqualified PQR1-1-105 there were characteristics of the WPS not fully qualified," dated October 3, 2012
2. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 001, Evaluation Identification No. 13-107, "Vogtle Units 3& 4, Unsatisfactory Welding Profiles on CA20-73," dated December 13, 2012
3. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-141, "Vogtle Unit 3, Unit 3 Unsatisfactory Standard Embedment Plates," dated May 8, 2014
4. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-151, "Vogtle Units 3 & 4, Weld Non-Conformances on Sub-Modules CA03-08 and CA03-09 Supplied by SMCI," dated July 2, 2014
5. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-212, "VC Summer Units 2 & 3, Unsat Embeds – Units 2&3," dated January 25, 2014
6. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-221, "VC Summer Units 2 & 3, Unit 2& 3 Embed Deviations," dated February 27, 2014
7. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-305, "Potential Part 21 issues with WPS," dated February 2, 2014
8. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-306, "Domestic AP1000 Module Nuclear Scope in Common (Parent Project); VC Summer Unit 2; Vogtle Unit 3; Welder Qualification Testing Done for Gas Tungsten Arc Welding (GTAW) Process Utilized Coupon Testing That Was Not Compliant with AWS D1.1-2000," dated January 4, 2014
9. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-322, "Vogtle Unit 3 & VC Summer Unit 2, WPS 1-10-186 Non-Compliance to AWS Code Requirements and Was Used to Fabricate Sub Modules for SV3 and VS2," dated March 7, 2014
10. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-388, "Domestic AP1000 Module Nuclear Scope in Common, Coating Application Procedures in CA03 Sub-modules Supplied by SMCI," dated May 23, 2014
11. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-389, "VC Summer Units 2 & 3, Vogtle Units 3 & 4, Welder Qualifications for Welded Components Supplied by SMCI," dated June 13, 2014
12. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-390, "VC Summer Unit 2, Vogtle Unit 3, Penetrations Not Wrapped with Insulation as Required by Drawing," dated June, 15 2014
13. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-391, "VC Summer Units 2 & 3, Vogtle Units 3 & 4, Lost and Missing Measuring and Test Equipment Used on Modules Supplied by CB&I Lake Charles," dated February 25, 2014
14. QA Form 16005, "Initiation / Review / Evaluation Form (10CFR21 / 10CFR50.55(e)), Revision 002, Evaluation Identification No. 14-402, "VC Summer Units 2 & 3, Vogtle

Units 3 & 4, QA Program Issues Associated with CB&I Lake Charles Welding Procedure Specification Non-Conformances,” dated July 9, 2014

Correspondence

1. Email from Ervin, Brandon to Jantosik, David; Sheldon Patrick C; Blum, Buck, Subject: Draft SMCI Restrictions, dated May 29, 2014
2. Email from Ervin, Brandon to Kavchak, Marilyn A, Subject: KQ11 Ship Status, dated May 31, 2014

Miscellaneous Documents

1. CB&I Table of Contents, Nuclear Quality Assurance Directives
2. CB&I Quality Assurance Table of Contents, Nuclear Quality Standards
3. CB&I Power Group Procurement Procedures List
4. Domestic AP1000 Project Manual DAPP 5-2-4 dated February 24, 2014
5. APP-GW-GAH\*010/DAPIP 4-1, “Project Quality Assurance Program Interface Plan for Domestic AP1000 Projects,” Revision 6