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October 06, 2017

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U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Chief, Quality Assurance Vendor Inspection Branch - 2  
Division of Construction Inspection and Operational Programs  
Office of New Reactors  
Washington, DC 20555-0001

99901432

**SUBJECT:** REPLY TO U.S. NUCLEAR REGULATORY COMMISSION OFFICE OF INVESTIGATION REPORT OF CHICAGO BRIDGE & IRON NO. 2-2015-040, NOTICE OF NONCONFORMANCE

**REFERENCE:** LETTER FROM JOHN BURKE (NRC) TO MR. LUKE SCORSONE (CB&I), U.S. NUCLEAR REGULATORY COMMISSION OFFICE OF INVESTIGATIONS REPORT NO. 2-2015-040 AND NOTICE OF NONCONFORMANCE, DATED SEPTEMBER 11, 2017.

Dear Mr. Burke,

In response to the referenced NRC Notice of Nonconformance (NON), CB&I herewith provides the enclosed reply (enclosure). The reply addresses: The NON as it relates to Criterion 2 (Quality Assurance Program) and Criterion 9 (Special Processes).

Pursuant to the NRCs corresponding instructions specified in the Notice, the enclosure addresses for the NON: 1) the reason for the noncompliance; 2) the corrective steps that have been taken and the results achieved; 3) the corrective steps that will be taken to avoid future noncompliance; and 4) the date when the corrective actions will be completed.

CB&I understands the feedback received from the NRC as results of the investigation. Corrective actions have either been completed or initiated to remedy the specific finding provided to avoid further noncompliance.

Should you have any questions regarding this submittal, please contact me at (832) 513-1154 or Brian Gibson, Quality Director, at (832) 513-1927.

Sincerely,

Luke Scorsone  
Executive Vice President  
Fabrication Services

IED9  
NRD



**Attachment**  
**Reply to Notice of Nonconformance 99901432/2017-02**

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) investigation conducted at the Chicago Bridge & Iron (hereafter referred to as CB&I Laurens) facility in Laurens, SC certain activities were not conducted in accordance with NRC requirements that were contractually imposed upon CB&I Laurens by NRC licensees:

Criterion II, "Quality Assurance Program", of Appendix B to Title 10 of the Code of Federal Regulations (10 CFR) Part 50, states in part, that "The program shall provide for indoctrination of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained."

Criterion IX, "Control of Special Processes", of Appendix B to 10 CFR Part 50 states that "Measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements."

Section 9.2.4 of CB&I Laurens QAM states, in part, that "non-destructive examination, except for visual examination in accordance with ASME B31.1 and 9.2.7 of this manual, shall be conducted and evaluated by personnel qualified and certified in accordance with CB&I Laurens written practice which meets the requirements of SNT-TC-1A, Code accepted edition and NB/NC/ND/NF-5520. A Level III Examiner is responsible for the examination and certification of Level I, II and III Personnel."

In addition, Section 9.2.12 of CB&I Laurens QAM states that "NDE shall be performed by a Level I, II, or III certified in the method of NDE used and evaluated by a level II or III certified in the method of NDE used."

Contrary to the above, as of December 20, 2016, CB&I's Fabrication and Manufacturing (F&M) Quality Director, who was the responsible Level III non-destructive examination (NDE) inspector, failed to provide adequate measures to assure non-destructive examination (NDE) personnel were qualified to assure suitable proficiency is achieved and maintained. Specifically, the F&M Quality Director allowed certification of personnel that had been tested by personnel not properly delegated to do so. In addition, there were inadequate measures that allowed access to exams prior to taking exams. Specifically, the F&M Quality Director inappropriately allowed for individuals who were proctoring the tests to take the same tests they would have had the answers to. As a result, the CB&I F&M Quality Director improperly qualified approximately 10 Level I and Level II NDE inspectors between 2010 and 2015.

This issue has been identified as Nonconformance 99901432/2017-02.



**Reason for Noncompliance**

The reason for this noncompliance was failure to follow procedure.

**Corrective actions taken**

Upon receipt of this NON, CB&I Laurens generated CAR-2017-141 to document and evaluate this condition. Since the CB&I Laurens Stop Work Order, extensive training with QC personnel has been performed, along with multi-certification of personnel by the CB&I NDE Level III. This training has been performed with multiple QC inspectors in all methods of NDE. It should be noted that the NDE Level III referenced within the subject condition is also no longer employed since the stop work order at the Laurens facility.

**Corrective actions that will be taken**

1. An extent of condition review of all QC inspector certifications will be performed by the CB&I NDE Level III to verify the adequacy of all NDE certifications since the inception of the AP1000 Nuclear Project. This review to include tests administered to inspection personnel, along with tests administered to proctors used to certify Level II personnel.
2. Perform evaluation of tests currently used to ensure that delegations from NDE Level III are properly performed and that tests are properly controlled. This should include evaluation of tests used by proctors, and tests provided to proctors when certified by NDE Level III.

**Date when full compliance will be achieved**

November 10, 2017