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September 14, 2017

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

SUBJECT: REPLY TO U.S. NUCLEAR REGULATORY COMMISSION INSPECTION REPORT OF CHICAGO BRIDGE & IRON NO. 99901432/2017-201, AND NOTICE OF VIOLATION AND NOTICE OF NONCONFORMANCE

REFERENCE: LETTER FROM JOHN BURKE (NRC) TO JAMES M. ROSSIGNOL (CB&I LAURENS), U.S. NUCLEAR REGULATORY COMMISSION INSPECTION REPORT NO. 99901432/2017-201 AND NOTICE OF NONCONFORMANCE.

Dear Mr. Burke,

By letter dated July 10, 2017 the NRC stated that CB&I Laurens reply was found to be not fully responsive to Notice of Nonconformances (NONs) 99901432/2017-201-05, 99901432/2017-201-08 and Unresolved Item 99901432/2017-201-07. The enclosure to this letter is provided in response to the requests for additional information as stated in the NRC letter.

Should you have any questions regarding this submittal, please contact Matt Rossignol, Quality Manager, at (864) 683-3986.

Sincerely,

Matt Rossignol
Quality Manager
CB&I Laurens

Enclosure:

IE09
NRO

By letter dated July 10, 2017, the NRC provided a request for additional information regarding the CB&I Laurens response to Notice of Nonconformances (NONs) 99901432/2017-201-05, 99901432/2015-201-08, and Unresolved Item 99901432/2015-201-07. The following information is provided in response to the NRC requests for information:

1. ***Your response to NON 99901432/2017-201-05 failed to address several areas of concern to the NRC staff. Clarify your response as follows:***

   a. ***The response states, in part, that "The procedure and Job Instructions (JI) only address capping prior to shipping after final cleaning inspection was performed." As stated in the inspection report, the piping spools that were in question included valves that have inaccessible areas that cannot be final cleaned without total disassembly, and therefore are to be maintained clean throughout the entire processing of the piping spool and not just after final cleaning. Describe in sufficient detail the corrective actions being taken for these piping spools with inaccessible areas that cannot be final cleaned, but are to be maintained cleaned throughout the fabrication of the piping spool.***

   b. ***The response states, in part, that "The procedure and Job Instructions (JI) only addressed capping prior to shipping after final cleaning inspection was performed. Immediate training of cleaning/coating personnel and QC also performed to new requirements and to ensure that they are aware that capping is to be established and maintained immediately after final cleaning." Clarify whether the procedures were revised to also require valves or other components with inaccessible areas to be maintain cleaned throughout the entire processing of the piping spool and not just after final cleaning and that the personnel are trained concerning this requirement.***

   c. ***The response does not provide the extent of condition for all the piping spools that have shipped or in process of being shipped. Therefore, provide the extent of condition for the piping spools that this cleanliness requirement was not performed since it was not specified in the procedure (cleanliness capping was only performed prior to shipping the piping spools in lieu of maintaining cleanliness after final cleaning and maintaining cleanliness throughout the entire process for piping spools with inaccessible areas).***

CB&I Laurens Response:

CB&I Laurens original response to the inspection report was to look at what kind of breakdown occurred to cause the spools to be unprotected after inspection and prior to shipping. This was a narrow minded response as it relates to this finding. CB&I Laurens has developed, submitted and had approved procedure BFS-AP1000-CL/SS-1 to meet the requirements of Westinghouse document APP-GW-Z0-602 for stainless steel spools. The procedure is required and includes provisions for cleaning, inspection of surfaces, as well as the maintenance of inaccessible surfaces, which also are covered in project Job Instructions. The spools in question followed all applicable procedural requirements through fabrication, cleaning and the inspection of the cleaned spools as required by BFS-AP1000-CL/SS-1. The response focused on the need for protecting after cleaning because the procedure specifically describes actions during fabrication and was not clear about post fabrication activities.

No extent of condition was performed in regards to these spools or previously shipped spools due to the fact the spools were stored in an internal area used for clean work, cleaning and coatings, and because the spools identified during the inspection and all ASME Section III and Safety Related spools must pass a supplier mandated hold point for cleanliness inspection prior to being released for shipment. Meaning that each one of these spools has been accepted by the customer as meeting the requirements of APP-GW-Z0-602 prior to shipment. A review of NCRs and clients Unsats was also conducted and found that there is little evidence to support that spools have been identified as having an internal cleaning issue. It should also be noted that APP-GW-Z0-602 clearly states in section 1.1.1 that "Final cleaning after completion of installation, startup and turnover are not part of the scope of this document." This statement along with the breakdown of this procedure into work that is Shop Cleanliness and Installation Cleanliness is indication that after installation there will be further cleaning that will be required for installed spools.

2. ***Your response to NON 99901432/2017-201-08 failed to address several areas of concern to the NRC staff. Clarify your response as follows:***

   a. ***Your response states, in part, that "calibration services being used by the two noted suppliers will be procured by CB&I Laurens through the use of qualified suppliers to ensure that the proper flow down of safety related requirements is achieved." However, your response failed to address the work already completed by these two suppliers. Provide the extent of condition performed to evaluate the calibration services already completed by these two suppliers.***

CB&I Laurens Response:

In each of the two instances noted CB&I Laurens believed that they had taken sufficient measures to ensure that calibration services had been properly established prior to work being performed. In regards to Wyman Gordon Pipe and Fittings CB&I Laurens had taken the approach to review the calibration suppliers used and had taken the steps to qualify and add them to the CB&I Approved Suppliers List (ASL) because they met the requirements for Commercial Grade Dedication, meaning they were a either A2LA certified or CB&I performed a survey on the supplier. CB&I also took the action to perform an end of work cycle calibration on devices to validate that they did not fall out of calibration during the calibration cycle.

Pinson Valley had an initial commercial grade survey conducted and CB&I Laurens had accepted the calibration program based upon the survey. A further review determined that Pinson Valley was in fact using the same calibration supplier as CB&I Laurens had qualified and is currently using. The supplier in question is an ISO 17025 qualified supplier and has been A2LA certified and is maintained on CB&I Laurens ASL. The calibration records provided by Pinson Valley also indicate that the calibrated device used as the standard has never been found out of tolerance. The solution annealing process being performed at Pinson Valley calls the material to be heated to between 1900°-2000° F. All solution annealed heat charts are reviewed for compliance and accepted for use. No parts have been found outside of this required range at present. It should also be noted that recent changes to the design requirements have eliminated the need for the solution annealing process and thus the importance of this process has been diminished.

3. ***Your response to Unresolved Issue 99901432/2017-201-07 failed to address several areas of concern to the NRC staff. Clarify your response as follows:***

   a. ***The response states, in part, that "CB&I Laurens opened CAR-2017-029 to document any issues in regards to previously closed corrective action (C/PAR) 570." The response did not provide any useful information for the NRC staff to verify the adequacy of the extent of condition. As stated in the inspection report, the NRC staff needs more information to determine if a nonconformance has occurred. Provide the following information:***

      i. ***The extent of condition specified in C/PAR No. 570 as a result of NON 99901432/2015-201-02 issued in the NRC inspection report No. 99901432/2015-201, dated May 22, 2015. Your response should include any objective evidence associated with the extent of condition.***

      ii. ***Full evaluation of the corrective steps that have been taken and the results achieved;***

      iii. ***Full evaluation of the corrective steps that will be taken to avoid further noncompliance; and;***

      iv. ***The date when the corrective action will be completed.***

CB&I Laurens Response:

Extent of Condition

The conclusion determined through the review of C/PAR 570 and as documented within the response provided to NON 99901432/2015-201-02 supplied on 10/18/2015 was there was no extent of condition conducted in regards to incorrectly performed QC ISI grinding inspection. CB&I Laurens did however perform a re-inspection of all spools that had completed fabrication prior to the CB&I Laurens self-imposed Stop Work Order (SWO) as actions related to another corrective action. Like any other production issue any deficiency would have been documented as an NCR and subsequently corrected via the NCR process.

Since the lifting of the SWO in November of 2015 there have been no documented client returns or complaints in regards to ISI preparations having coarse ripples, grooves, overlaps, abrupt ridges and valleys as identified in NON 99901432/2015-201-02 indicating that the measures inspection procedure and measures taken for C/PAR 570 in fact were sufficient.

It is also important to consider that an incorrectly performed QC ISI grinding inspection yielding coarse ripples, grooves, overlaps or abrupt ridges does not yield a significant condition adverse to quality.

Corrective actions taken

CB&I Laurens issued CAR-2017-029 to analyze whether C/PAR 570 was complete and thorough.

Corrective actions that will be taken

No further corrective actions have been taken in regards to this issue.

Date when full compliance will be achieved

Full compliance in regards to this issue has already been achieved.

The context of CAR-2017-029 also included investigating an improperly dated inspection. Through interviews and reviewing information gathered during the initial investigation it was found that the date was entered based off a documented inspection report and was not noted as a 'Late Entry". At that time CB&I Laurens had not documented procedure regarding late entries. Subsequently this process has been included in implementing procedures to eliminate these types of issues.