



Flow Control Operations

*Anchor/Darling Valves
BW/IP Valves
Edward Valves
Valtek Control Products
Worcester Valves*

September 21, 2017

U.S Nuclear Regulatory Commission

Attention: Document Control Desk, Washington, DC 20555-0001

Subject: Reply to a notice of non-conformance on inspection report 99901356/2017-201 dated August 22nd 2017.

**Please consider the below a response to your identified Nonconformance
99901356/2017-201-01: Flowserve Corrective Action # 1684**

Flowserve Raleigh has performed a full review of our Approved Vendor List (AVL). We have reviewed all the audits that were on file and active, 193 total. We have determined that after the review of the audits and surveys there were 18 suppliers that Raleigh is requesting additional information to satisfy the audit reports on file. During the review of the requested additional objective evidence we will determine if a re-audit will need to be performed to review and record the evidence needed to support the qualifications and regulations.

The process was not fully defined in the procedure on what evidence needed to be in the report to qualify our material organizations and what verbiage shall be used to satisfy NCA 3850. The issue after review has been determined that Raleigh did not reference in the audit reports that the suppliers were qualified as a material organization under the rules of NCA 3842.2, the suppliers were in fact audited to meet these requirements. The AVL and audit reports for our casting and forged suppliers will be corrected to show what they were audited against and qualified to supply under the NCA 3850 rules.

There are multiple checklists that Raleigh is currently using and these will no longer be available, there will only be two checklists available. (1 for Audits and 1 for Survey's). Raleigh will update the auditing procedure to be more specific on what checklist is to be used based on the AVL scope and supplier requirements. Further, all lead auditors will be trained on the requirements of the procedure, ASME Codes and regulations.

**Please consider the below a response to your identified Nonconformance
99901356/2017-201-02: Flowserve Corrective Action # 1684**

Flowserve Raleigh has performed a full review of our Approved Vendor List (AVL). We have reviewed all the audits and surveys that were on file and active, 193 total. We have determined that after the review of the audits and surveys there were 15 suppliers that Raleigh is requesting additional information to satisfy the audit reports on file. The programs were audited to the requirements of 10CFR50 Appendix B and 10CFR Part

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21 but the audit checklists were not fully disclosing enough objective evidence. We will gather the objective evidence and add this to the audits to show compliance to 10CFR50 Appendix B and 10CFR21. During the review of the requested additional objective evidence we will determine if a re-audit will need to be performed to review and record the evidence needed to support the qualifications and regulations.

The procedure and checklist going forward will be very clear in the requirements as to what to validate within a supplier's quality program and processes. Additional training on this procedure and the requirements of 10CFR50 Appendix B and 10CFR21 will be performed to validate that all lead auditors fully understand the requirements and provide the objective evidence required to qualify the supplier to the 10CFR50 Appendix B and 10CFR21 regulations.

**Please consider the below a response to your identified Nonconformance
99901356/2017-201-03: Flowserve Corrective Action # 1680 Revision 2**

Flowserve Raleigh has performed a full review of the nonconformance identified above and have determined that the individuals in the welding control areas were not identified to be designees to the Supervisor of Welding, the welding oven for returned weld rods were not being used correctly per procedure 36-40-14 and Raleigh's Quality Program and a welder performed a weld outside of the allowable amperage designated on the weld procedure.

The immediate action was to lock the cages and only the Supervisor and designees will have access to the weld material storage areas. Raleigh management trained all personnel in the welding departments on procedure 36-40-14 and the QA Manual. The welder performing the weld outside of the weld process was issued a stop work by the QA Manager and qualifications of the welder were removed. The weld control ovens were clearly identified for the return of coated weld materials for all shifts and the Supervisor and designees were instructed on the usage of the heated cabinets in accordance with Raleigh's QA program and procedure 36-40-14.

Raleigh's Manager of Metallurgical Process Control / Welding Engineering has reviewed the amperage overage issue that was performed by the welder and determined that a revision to the weld procedure was not needed and that the component that was welded although welded outside of the parameters would not require the component to be reworked or repaired and would not affect the component to perform its function. The amperage excursion is a violation of the weld process amperage range but is not a violation of a ASME Section IX essential variable and requalification of a PQR is not required.

Raleigh's Manager of Metallurgical Process Control / Welding Engineering has reviewed the weld material exposure time and has determined after investigation and review of Section IX and our manufacturers recommended storage time that the immediate re-issue of the coated electrodes resulting in additional exposure time would not degrade the electrode and would not result in a Hydrogen embrittlement risk. The manufacturers recommended total exposure time prior to re-bake is 48 hours. The immediate re-issue resulting in a total exposure of 6 hours is not detrimental to the performance and

function of the coated electrodes.

The return ovens will be relocated to provide complete separation from the storage ovens to prevent a coated electrode that has been removed for 3 hours or less being introduced into the incorrect oven.

The procedures and quality program will be reviewed for potential process changes to provide clearer directions and allow for better process and weld controls. All welding personnel will be trained on this updated procedure and quality program.

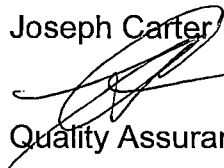
**Please consider the below a response to your identified Nonconformance
99901356/2017-201-04: Flowserve Corrective Action # 1686**

Raleigh's Manufacturing Manager and Engineering Manager performed a thorough review of our internal processes and cleaning procedures as part of this corrective action approach. The brush that was used was not identified as a carbon brush and was used on a stainless valve during prep/clean in the welding department. This has been determined to be an individual occurrence by a single employee. The immediate action was to remove all carbon steel brushes from the tool crib and throughout the facility. After a full review of our procedures and method specifications we have determined that we meet the requirements of the Westinghouse procedure and our quality program. The Westinghouse design specification requirement 7.3.3 and cleaning specification 2.2.3.2 are being fully satisfied in our internal documents here in Raleigh. Cleaning procedure 8260NW Revision 4, Raleigh Route Cards in multiple steps in regards to welding and cleaning, Quality Assurance plans in multiple sections and including the welding procedures P8-123NW and P8-323NW all list the requirement to only use stainless material during processing. The employee failed to adhere to his procedures and processes and with additional issues identified by the welder from the QA Manager, the employee was immediately given a stop work notice and the welder's qualifications were removed until further notice. In closing we have the requirement built into our program and processes and the individual that was identified will not be performing welding or cleaning activities. We are evaluating changes and planning on purchasing and identifying the tools in a manner that will prevent the recurrence of this. (i.e labeling and/or color coding). Flowserve Raleigh will continue to enhance our program and continue to strengthen our controls and procedures.

We would like to request to follow up with this letter for closure of the Non-conformances above by 10/31/2017 with the closed corrective actions for your review and acceptance.

Questions or comments please contact me directly: jocarter@flowserve.com or 919-831-3220.

Joseph Carter



9/21/2017

Quality Assurance Manager, Raleigh NC

Copy:

John P. Burke - Chief Quality Assurance Vendor Inspection Branch-2 Division of Construction Inspection and Operational Programs Office of New Reactors.

Robert Sherman – Director/ General Manager – GG&C Business Flowserve Corporation of Raleigh NC