

May 31, 2017

Mr. Stewart Shannon
Senior Director, Product Assurance
Curtiss-Wright Electro-Mechanical Division
1000 Wright Way
Cheswick, PA 15024

SUBJECT: CURTISS-WRIGHT ELECTRO-MECHANICAL DIVISION RESPONSE TO THE
U.S. NUCLEAR REGULATORY COMMISSION INSPECTION REPORT
99901383/2016-201, AND NOTICE OF NONCONFORMANCE

Dear Mr. Shannon:

Thank you for your letter dated April 27, 2017, in response to the Notice of Nonconformances (NONs) that were discussed in the subject U.S. Nuclear Regulatory Commission (NRC) inspection report.

We have reviewed your letter and found that it is not fully responsive to NONs 99901383/2016-201-01 and 99901383/2016-201-02. Specifically:

1. Your response to NON 99901383/2016-201-01 failed to address several areas of concern to the NRC staff. Clarify your response as follows:
 - a. The response states, in part, that “Westinghouse issued Revision 2 of the design specification that included language specific to the flywheel materials, which remained unchanged.” Clarify this by providing the specific language for the flywheel materials you stated, and whether this language specifically allowed the use of Alloy 600 weld filler material.
 - b. The response stated that Westinghouse was notified by formal letter on March 31, 2017, of this nonconformance and that additional actions may be necessary on the part of Westinghouse. Provide a copy of the March 31, 2017, letter.
 - c. The response states, in part, that “The completed engineering evaluation and justification will be submitted to Westinghouse.” Clarify whether this submittal to Westinghouse will be for approval as a basis for an engineering design.
 - d. The response states, in part, that “CW-EMD submitted weld procedures that specifically identified alloy 600 weld filler material 82/182 for welds 37, 38, 39, and 61 on the flywheel assembly which Westinghouse approved in June, 2009.” Related to the Westinghouse approval in June 2009, clarify whether CW-EMD specifically submitted these weld procedures for approval to use the alloy 600 weld filler material, or submitted these weld procedures of examples of alloy 600 weld filler material applications.

2. Your response to NON 99901383/2016-201-02 failed to address several areas of concern to the NRC staff. Clarify your response as follows:
 - a. The response states that CW-EMD conducted an assessment of Precision Castparts Corporation (PCC) weld filler material controls to assure PCC had adequately controlled their commercial sub-suppliers of weld filler metal. CW-EMD obtained samples of weld filler material from PCC for three sub-suppliers of weld filler material and tested the samples at an independent laboratory. Clarify how the testing services were procured from the independent laboratory (e.g., safety-related, commercial, etc.) and provide the name of the laboratory.
 - b. The response failed to address the hot isostatic pressing (HIP) activities performed by the PCC's sub-supplier, Bodycote. Although the response states that CW-EMD will conduct a commercial-grade survey of PCC in May 2017, the response did not address the components that had already gone through the HIP process that had been delivered to CW-EMD. Describe what actions were taken by CW-EMD to ensure that these components would perform their intended safety function.
 - c. The response states that CW-EMD performed a commercial-grade survey of R.L. Holiday's (RLH) quality system and that this survey showed sufficient controls are in place to assure that sub-suppliers of calibration services are capable of providing the required services. Describe in sufficient detail what actions CW-EMD took to ensure that RLH provided adequate oversight of their sub-suppliers.
 - d. The response states that CW-EMD initiated Corrective Action Request (CAR)-2016-00268 which included a recurring training for ASME NQA-1 Lead Auditors and a monthly peer review process for supplier audits and commercial-grade surveys. In addition, the response states that CW-EMD will conduct a commercial grade survey of PCC in May 2017. However, your response failed to include what specific actions will be taken (e.g., changes to inspection procedures, imposition of the necessary controls on sub-suppliers, etc.) to determine what should be considered sufficient objective evidence of quality furnished by the contractor or subcontractor to avoid further noncompliance. Describe what actions will be taken by CW-EMD to ensure that necessary controls will be imposed on suppliers and sub-suppliers and what will constitute sufficient objective evidence to demonstrate that a supplier has adequate controls and measures to verify that the critical characteristics were adequately controlled by their sub-suppliers. When responding, please bear in mind that (1) the dedicating entity (in this case CW-EMD) is responsible for the control of sub-suppliers, and that (2) the reason for the nonconformance was that CW-EMD's auditors believed that certain documents from the sub-suppliers constituted sufficient objective evidence, although when reviewed by the NRC inspection team, these documents did not provide reasonable assurance that the critical characteristics were adequately controlled.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and 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, accessible from the NRC Web site 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, then 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 is 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 will 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."

Please contact Mr. Yamir Diaz-Castillo at 301-415-2228, or via electronic mail at Yamir.Diaz-Castillo@nrc.gov, if you have any questions or need assistance regarding this matter.

Sincerely,

/RA/

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

Docket No.: 99901383

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Dated: May 31, 2017

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