

AAR/RSI QUALITY NEWSLETTER

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MEASURING AND TEST EQUIPMENT – CALIBRATION CONSIDERATIONS / GUIDANCE

Submitted by Bob Wolbert – Progress Rail

MSRP section J addresses the requirements for measuring and testing equipment (MTE) calibration while leaving room for each company to make fact based decisions on what, how, and how often they choose to calibrate their MTE. Let's take a look at the first two requirements with some practical guidance examples.

2.8 Measuring and Testing Equipment

The contractor shall do the following:

2.8.1 Establish and maintain documented procedures to control, calibrate, and maintain all measuring and test equipment and devices used to verify item quality and to monitor special processes.

Documented procedures to control and maintain MTE per 2.8.1 might include procedures that include:

- Who is authorized to calibrate MTE items and the basis for that authorization
- What safeguards are in place to prevent unauthorized adjustments

- Provide for assignment of responsibilities for users to report loss, damage / operational concerns, legibility issues with calibration dates
- Provide for the required training and documented authorization of an employee to use MTE
- Provide means to control / monitor special processes
 - Painting- use of surface blast profile MTE, Wet Mil thickness gauges, Dry Mil thickness gauges
 - Welding – use of shielding gas flow regulators or orifices that control flow; calibration of Volt / Amperes meters on welding machines

2.8.2 At prescribed intervals or prior to use, calibrate and adjust measurement and test equipment against certified equipment having a known valid relationship to nationally recognized standards.

Calibrations Intervals Guidance for 2.8.2:

- Always check for MSRP technical requirements that govern requirements for calibration including wear tolerances allowed and defined intervals for MTE calibration

- If no requirements exist in the MSRP, it is up to the user to determine the interval and attributes to calibrate which requires knowledge of the manufacturing tolerances and the allowable wear tolerances for the item.
 - When new MTE is purchased a Long Form Calibration Report should be requested in purchase order. The calibration document should include the as manufactured dimensions and tolerances in addition to the calibration tolerances for critical dimensions
 - Calibration methods and tolerances can be obtained directly from the MTE calibration company as often times they include the reference to the specification used in the calibration document. Another way is to research the available specifications for the item by performing a search through document sales web site offering the technical document (ANSI, ISO, ASQ, etc.) needed.
- Intervals for calibration not defined by MSRP's can vary as illustrated by the following examples:
 - Master Gauges used for calibrating other gauges are not subject as a rule to frequent handling wear and tear. They are not subjected to everyday use on production parts and as such can be placed on a longer interval typically 3 to 5 years.
 - Intervals for calibration can sometimes be determined by reviewing the initial long form calibration and the recommended next calibration date. You can question the basis of that date with the calibration service company and the source document they are utilizing.
 - QA final inspection gauges used on 100% of items processed might require a shorter duration such as 6-12 months until wear from usage is documented to support lengthening the duration.
 - Production mechanics might use "reference gauges" that are not subject to calibration requirements when product quality attributes are verified by QA personnel utilizing calibrated gauges

While the M1003 specification does not require the use of long form calibration (see 8.11) the basis for establishing intervals and later changing the intervals can be supported by the dimensional changes tracked by this type calibration report versus the pass / fail of a short form calibration report. Monitoring the wear history should also be used in the consideration of preemptively removing a gauge from use or shortening the next calibration interval.

VIEWS AND INTERPRETATIONS

Applicability and Scope (Reference M1003 Paragraph 2.2.1 And M1003 Paragraph 2.15.7 and Appendix C 2.0)

2.2.1 The contractor's quality assurance program shall apply throughout all areas of contract performance including, as appropriate, the procurement, identification, stocking, inspection, and issuing of material; the entire process of manufacture including design control, fabrication, processing, inspection, and assembly; the packaging, storing, and shipping of material; and the maintenance of equipment that affects quality.

2.15.7 Maintaining equipment with documented preventative maintenance to ensure continuing conformity to product requirements.

Appendix C: For any equipment in a facility that has a direct effect on quality, you must include in your QA Program how you maintain that equipment. Some examples, depending on the type of work you do in a facility could include the following:

- ***The shear, brake press, stationary drill, and center plate turning machine affect the quality of the product and/or the ability to produce a quality product to customer***

requirements. Therefore, all of this equipment requires a documented maintenance procedure.

- **The wheel boring mills, axle lathes, wheel mounting press, and bearing mounting press must be in good working order to operate your wheel and axle shop. Therefore, documented maintenance procedures for that equipment are required.**

Further Interpretation by the AAR QAC: Defining good working order is interpreted as the ability of the equipment to meet the quality requirements typically spelled out in the applicable MSRP and customer requirements. Clarifications to M1003 Appendix C will be updated in the next edition of M1003.

Have a question? Submit your M-1003 request for clarification or interpretation by emailing QA@aar.com.

Q&A WITH THE AAR QAC

Submitted by Jaimie Ryan - Union Pacific Railroad

The questions below were submitted during the AAR Quality Auditors and Industry Conference. The answers provided are those that were given by the AAR QAC at the conference.



Should a 7.1 be able to be filed if it is not filled out correctly?

When submitting a 7.1, all mandatory fields are flagged with a red asterisk.

- | | |
|------------------------------|-------------------------------------|
| * Initiator | * Quantity Received |
| * Contractor | * Quantity Inspected |
| * Item Description | * Quantity Rejected |
| * Nonconformance Description | * Material Inspection by Contractor |
| * Material Condition | * Signature and Title |

As long as these fields are completed, the 7.1 will be processed. If thorough information is not provided by the initiator, delays may occur in the handling and completion of a 7.1. Dropdowns have been added and are updated periodically to standardize submissions and expedite processing.

What agencies have AAR accredited auditors? Can other agencies be used?

M-1003 certification audit will be conducted by IQC, CRQS, BOE or MID. One of these four entities must perform the M-1003 audit for certification to be granted.

Who should attend an audit and/or report out?

Attendance may vary by size of organization, count of facilities and many other factors. Recommend participation for individuals involved with quality, plant operations and management of the facility. An audit will provide opportunities for improvement. People involved in continuous improvement may find benefit in attending. Additionally, if individuals are interesting in learning more about M-1003 you may suggestion attendance.

ARTICLES FOR THE NEWSLETTER – YOUR VOICE

Submitted by Gary Alderson – AllTranstek, LLC - RSI QAC Chairman

Since we brought back the QA Newsletter, we have received a lot of great feedback from the industry about the letter, and the information it provides. Those of us who decided to bring the newsletter back did it for that reason, so you as the reader could access more information and learn about quality and current events.

All of the articles go through approval by the AAR QAC, the RSI and TTCI. All you have to do is submit your article to myself or Donna Jacobi and we will review it and send it over for approval prior to publication. That's all you have to do!

Please consider submitting an article that relates to quality assurance, internal and external quality audits, quality measures, process control, document control, measuring and test equipment, or any other subject or element that could help someone else understand the quality process in our industry. The idea is to educate our industry by providing team work and input from all involved. If you don't have an article to submit, please consider submitting an idea for one to Donna Jacobi or Gary Alderson. You can also submit questions to the Views and Interpretations for an official answer on an issue.

Thank you for your time, and please consider sending your article or idea to us. Our email addresses are provided on the last page of the newsletter.



Have an idea for an article? Please submit your drafts to Donna Jacobi at djacobi@amstedrail.com or Gary Alderson at alderson@alltranstek.com.

AAR QUALITY AUDITORS AND INDUSTRY CONFERENCE

Submitted by Don Guillen - Transportation Technology Center, Inc.

The 2018 Quality Assurance Conference has come and gone, and with it nearly 300 attendees. To most, this year's event was reminiscent to past conferences, filled with informative presentations, networking opportunities, great food, and a comfortable venue. For others, it was their first experience to take in such an abundance of information in such a short period of time.

Our keynote speaker on day one of the conference was Mr. David L. Freeman, Executive Vice President, Operations for BNSF Railway. Mr. Freeman's presentation described how BNSF builds a culture focused on safety, and how their wayside detection system drives their maintenance of way program which in-turn leads to their improved safety record.

I would like to take this opportunity to thank Mr. Freeman and the rest of the 23 presenters who made this year's conference a success.





To gain a perspective on the 2018 AAR Quality Auditors & Industry Conference (QA Conference) that took place on January 23-25 in Fort Worth Texas at the Historic Hilton Fort Worth hotel, I asked a few first-year attendees as well as a conference veteran to provide comments.

For Hannah Wendt of GATX, this was her first conference. While she has only been in the rail industry for three months, she has 10 years of quality experience working with the steel industry. With this being her first AAR QA Conference, she was more focused on observing and learning as much as possible from the presentations. It was clear to her that the AAR is focused on providing more tools to the industry

to aid in the development of more robust quality systems. Looking forward to the 2019 QA Conference, she hopes to see more detail in upcoming AAR activities and plans beyond the areas focused around auditing, such as digging deeper into the manufacturing processes in addition to maintenance practices. She looks forward to attending the conference in the coming years.



Daniel Thielemier was also a first-time attendee to the conference, and was able to see the event through a different point of view.

Daniel has been with TTCI since 2013, but has only recently been working to support the Quality Assurance group within the Technical Standards department. His involvement with the conference was more supplementary. While he was there to learn about the different facets of the industry, his primary focus was to



assist in delivering a smooth conference experience for the attendees. He was impressed with the diversity of topics and detailed information they provided. Even though some of the presentations were covering topics that were outside of his experience, he could still tell that the presenters were knowledgeable and informative.

He felt that grouping the presentations based on topic could be more beneficial to attendees who might only be

with involved with specific operations. He hopes to be able to attend future conferences.

Seeing the QA Conference for the first time was a great experience for these two attendees. However, the majority of those present have been to many conferences. For Joy Cooke, this marked her 19th conference. Joy brings with her 28 years of experience in the rail industry, 20 of which were involved in the M-1003 Quality Assurance program. Her current position with CSX keeps her closely associated with the M-1003 Quality Assurance program, overseeing the quality output in addition to writing quality procedures for CSX's repair shops. Joy felt that the technical committee updates were extremely informative and helpful. Like many of the conference attendees,



she felt that the presentation on auditing welding process was fantastic. She hopes that future conferences focus on one or two new auditing elements. Overall, she enjoyed the conference but wished that there was more time set aside for networking with other attendees.

While each of these three perspectives has unique insights and focuses that they were able to take away from the conference, their positive feedback speaks to the overall success of the conference. It is great to know that regardless of a person's history in the industry, there is something that they can find beneficial to learn about the quality program that the AAR has in place.

The 2019 AAR Quality Auditors & Industry Conference will be the 31st conference that the AAR Quality Assurance Committee has put together for the industry. The conference will be held in New Orleans, Louisiana on January 22-24, 2019 at the Hilton New Orleans Riverside hotel. Please reserve these dates and look for the AAR Circular Letter announcing when registration will open. We anticipate an even larger conference and look forward to seeing you in New Orleans!

UPCOMING REVISION TO SECTION J, M-1003

The AAR QAC (Quality Assurance Committee) is currently in the process of revising the Section J Specification for Quality Assurance, M-1003. The standard will be revised using the normal AAR circular process. It is expected that the revised standard will be issued in early 2019.

CALENDAR OF EVENTS AND IMPORTANT LINKS

2018 Calendar of Events

| Training | Date | Location |
|---|----------------|-----------------|
| Basic Auditor Training | July 24 - 26 | Norfolk, VA |
| | Aug 21 - 23 | Orlando, FL |
| | Sept 25 - 27 | Long Island, NY |
| | Sept 25 - 27 | Guadalajara, MX |
| | Nov 6 - 8 | San Diego, CA |
| | Dec 4 - 6 | Mexico City, MX |
| Advanced Auditor Training | Mar 6 - 8 | Cleveland, TX |
| | May 15 - 17 | Lincoln, NE |
| | Jun 12 - 14 | Skokie, IL |
| | Oct 30 – Nov 1 | Topeka, TX |
| Root Cause & Corrective Action | Apr 3 - 4 | New Orleans, LA |
| | Jun 19 - 20 | Roanoke, VA |

An AAR Circular Letter will be issued several months prior to each class announcing when registration is open

Important Links

[Registry of M-1003 Certified Companies](#)

[M-1003 Frequently Asked Questions](#)

[AAR M-1003 Certification on-line Application](#)

[AAR M1003, Section J Specification for Quality Assurance](#)

[AAR Training Schedule](#)

[AAR Circulars](#)

[MSRP Publication Current Revision Status](#)

[AAR Online Material Nonconformance Reporting System \(Chapter 7\)](#)

[Railway Supply Institute](#)

[Previous Newsletters](#)

The AAR /RSI Joint QA Newsletter is provided through the efforts of AAR Quality Assurance Committee and Railway Supply Institute Quality Assurance Committee members in an effort to provide information that is important to our industry in support of improving the quality of products and services provided. You can support this process by submitting your questions and ideas for improvement to QA@aar.com.

**THE FOLLOWING AAR QAC AND RSI QAC TEAM MEMBERS WORKED ON THIS NEWSLETTER
AS PART OF THE COMMUNICATION TECHNICAL ADVISORY GROUP:**

AAR QAC

Don Guillen – TTCI/AAR

Ray Morgan – Watco Transportation Service

Sheena Prevette – TTCI/AAR

Jaimie Ryan – Union Pacific Railroad

Bob Wolbert – Progress Rail

RSI QAC

Gary Alderson – AllTranstek

Donna Jacobi – Amsted Rail

Dean Matzo – TrinityRail



Reminder: Per Section J, 1.1.3 “An AAR official representative shall have free entry at all times to all parts of the contractor’s works that concern the processing, test, and inspection of materials for use in interchange service. This access is for the purpose of providing assurance that industry standards are being maintained. The contractor shall afford the AAR representative all reasonable facilities to ensure that materials are being furnished in accordance with the specification”