RAILWAY SUPPLY INSTITUTE
Support, Connection, Advocacy

RSI Quality Newsletter

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AUDIT FINDING EXAMPLES – By Newsletter Team

During an external audit, one illegible calibration sticker was found by the auditor after reviewing all of the measuring and test equipment available during the audit. The auditor wrote a noncompliance on the sticker. In your opinion should this have been an Item of Concern instead of a Noncompliance? How would you address this finding if you were the auditor?

Email your thoughts to cwall@rsiweb.org

STANDARD OF THE QUARTER – By Newsletter Team

The Manual of Standards and Recommended Practices, M-1002, Section C-III, Specification for Tank Cars provides valuable information on everything from service equipment in Appendix A, facility requirements in Appendix B, tank car marking requirements in Appendix C, Retest and Qualification in Appendix D, engineering and design details in Appendix E, and so on. You can recognize the familiar letter of each Appendix which helps guide you to Repairs in Appendix R, Nondestructive Testing in Appendix T, and Welding in Appendix W.

As familiarity with this manual is imperative for a tank car facility, it is worthwhile to provide training on portions of the manual when applicable to specific functions being performed. Appendix C – Marking of Tank Cars includes helpful figures detailing acceptable marking, decaling, and stenciling examples that could be beneficial for decal applicators and inspectors. Appendix J – Threaded and Bolted Flange Joint Assembly, although only recommended to be followed, can serve as basic training on service equipment removal and application fundamentals for personnel involved in this function.

Other appendices, such as Appendix D – Qualification and Maintenance Requirements for Tank Cars and Appendix R – Repairs to Tank Car Tanks, may be better suited as supplementary training used in conjunction with real-world examples of applicable procedures.

The M-1002, Section C-III, is one of the rare MSRP Sections that has both Appendices and Chapters.
Chapter 1 – Introductions, Approvals, and Reports is extremely important, as this Chapter contains the definitions for many terms found throughout later parts of the manual. As with any regulatory document, definitions are often key to understanding the intent behind the written requirements.

M-1002, Section C-III is also unique in that portions of this manual are incorporated by reference into the Code of Federal Regulations (CFR). 49 CFR Subchapter C, Parts 179 and 180 specifically address many of the same aspects of tank car design, maintenance, and qualification as does the C-III Manual. It is often worthwhile comparing applicable portions of the C-III Manual with applicable portions of the CFR when reviewing aspects of tank car design, maintenance, and qualification activities.

Always start by looking at the Table of Contents or by using CTRL F to find the answer to your question in the manual. Specific questions on interpretation can be directed to the tank car committee at tcc@aar.org. tcc@aar.org.

CHANGE MANAGEMENT, RISK MANAGEMENT, AND CONTINIUAL IMPROVEMENT

By Jake Sternberg – Associate Director of Quality – AITX

What Is QA Element 2.19?
Continual improvement is not something that happens by accident. It requires a structured process for identifying opportunities, determining which opportunities matter most, implementing changes, and evaluating whether those changes actually worked. Element 2.19 establishes that process through Change Management, Risk Management, and Continual Improvement. The intended outcome of a well-implemented QA Program is continual improvement. As we will see, many other QA Elements work in conjunction with Element 2.19.

There is also an underlying structure to the requirements of 2.19:
Identify - Assess - Plan - Implement - Verify - Learn - Repeat
This structure closely aligns with the familiar Plan-Do-Check-Act (PDCA) cycle. The important part is repeat. Continual improvement is not a one-time activity; it is a cycle.

How Do I Comply with Element 2.19?
The QA Program needs to address the organization's processes for change management, risk management, and continual improvement.

2.19.1 — Establishing the Process
2.19.1 requires procedures to address the requirements of 2.19. Be aware that this does not necessarily require three new procedures. It could be one procedure, multiple procedures, or integration into existing procedures.
Be strategic. Don't create a complicated system just to satisfy 2.19. Build the requirements into processes your organization already uses.

2.19.2.1 — Identify Opportunities for Change
2.19.2.1 asks us to identify where opportunities for change come from. Your QA Program is likely already doing some of this.
Examples of where your QA Program may already be identifying change opportunities include:

- Audit results (2.6 and 2.21)
- Management reviews (2.4.4)
- Nonconformance control and Chapter 7 reporting (2.18)
- Statistical methods (2.20)
- Risk management
- Industry and regulatory changes

Depending on how you structure your process for 2.19, don't forget to include the results of your change management initiatives as potential inputs or opportunities for change. We will discuss this more in 2.19.4.
Identifying opportunities is often the easy part.

2.19.2.2 — Assess Opportunities for Change
2.19.2.2 is where you determine which opportunities matter most to your QA Program and your company. This is also where risk management becomes connected to change management. You don't want every suggestion or every audit finding to automatically become a major improvement project. The organization needs a structured method for evaluating and prioritizing opportunities. There is no shortage of ways to assess risks and opportunities. A root cause analysis may provide important information for assessing an opportunity. Simple prioritization or a weighting system can be used. Other quality tools, such as Pareto charts, trend charts, control charts, check sheets, or brainstorming, may also provide useful information for assessing and prioritizing opportunities.

Do you have an idea for an article?
Please send your drafts to Gary Alderson at alderson@alltranstek.com or Alfredo Ricardo at ricardo@alltranstek.com

Interested in joining the RSI QAC?
Contacta a Carrie Wall at cwall@rsiweb.org

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Contact Carrie Wall at cwall@rsiweb.org

You don't have to lock yourself into always using one particular method. The important part is having a structured approach for identifying which opportunities are most critical to your organization. This prioritization can be a real difference-maker when resources and time are limited.

2.19.2.3–2.19.2.5 — Plan, Implement, and Follow Up
2.19.2.3 through 2.19.2.5 covers how to plan, implement, and follow up on changes. Once an opportunity for change is selected, develop a plan. Planning can be as simple as email communications and calendar reminders. Consider the size and scale of the opportunity. Can you test the change with a small number of people, on one production line, or at one facility before implementing it more broadly?

Consider what could go wrong and establish controls if necessary. This could be a temporary added inspection point, checklist, or other control intended to prevent unintended escapes. Define what success looks like if the change works, as well as what actions will be taken if the results are unsatisfactory. Be sure to define who does what and when. This is essential to planning (2.19.2.3), assigning roles and responsibilities (2.19.2.4), and establishing follow-up plans (2.19.2.5).

This is very similar to what is already required in Element 2.6: identify the problem, establish containment, determine root cause, implement corrective and preventive actions, establish follow-up plans, and assign responsibility for these steps. You are likely already assessing, planning, implementing, and following up on changes identified through audit findings and corrective actions. Leverage that existing process for 2.19 rather than creating another process from scratch.

2.19.3 — Risk Management
2.19.3 requires risk management. M-1003 defines risk management as:
"A systematic approach implemented as part of the QAP that involves assessment, evaluation, control, and communication of risks related to product quality, manufacturing processes, and/or customer safety/satisfaction."
It is worth emphasizing that this requirement does not need to be overcomplicated.

Earlier, in 2.19.2.2, we discussed assessing opportunities for change. Risk management may be fully addressed through the method you use to assess those change opportunities. You may also consider Element 2.20 and how your QA Program uses statistical methods. Management Review, 2.4.4, also references performance indicators such as inspection results and scrap rates.

The phrase "risk analysis methods" is intentionally open-ended. When we hear "risk analysis," we may immediately think of quantitative methods using data and numbers. However, qualitative methods can also be used to assess risk. For example, an organization could assess a risk or change using a simple low, medium, or high rating.
The important thing is that your method is systematic and appropriate for your QA Program and business.

2.19.4 — Continual Improvement
As stated earlier, the intent of 2.19 is consistent with the intent of a well-implemented QA Program: continual improvement. Notice the references in 2.19.4 to other Elements of the QA Program. Continual improvement is not isolated to Element 2.19; it relies on information generated throughout the QA Program, including change management, risk management, corrective and preventive action, internal audits, and management reviews.

The key to continual improvement is closing the loop. The results of implementing and following up on changes should often become new opportunities for change. A change may produce the desired result, produce an unexpected result, or fail to produce the desired result. Each outcome provides information that can be used to determine what should happen next.

This is why planning change and establishing what success looks like are so important. If the desired result is not achieved, the organization should be able to use what was learned to modify the approach and continue working toward the desired result.

Continual improvement does not mean that every change will immediately produce a positive result. It means the organization has a systematic process for learning from the results and using that information to improve.

2.19.4.1 — Quality Metrics
2.19.4.1 requires quality metrics. Does your QA Program already have quality metrics? How do you address the Management Review requirement in 2.4.4.1.3.4 for performance indicators? How do you address 2.20 for statistical methods?

M-1003 defines Quality Metrics as:
"Quantifiable measures used to evaluate performance against intended results."

Again, there are many ways to comply with this requirement. For example, how many audit findings did you receive last year? That is a quantifiable measure. A wise man once said, “You can't improve what you don't measure.”
Quality metrics provide the means to determine whether the changes being made are producing the intended results. If the year-over-year number of audit findings isn't trending in the direction you want, perhaps you should change something. Likewise, a positive trend may indicate that a change is working and should be maintained or applied more broadly. The goal is not simply to collect metrics. The goal is to use them to understand performance, evaluate the effectiveness of change, and identify where additional improvement may be needed.

2.19.5 —Records
2.19.5 requires records to be maintained in support of your procedures.
If you are performing the activities described above, you will likely already have some form of records—and you likely already have many of the records needed to demonstrate implementation of 2.19. Simply define what those records are within your QA Program and how they are maintained.

Closing Thoughts on 2.19

While this is a completely new Element that introduces some new concepts, the intent of 2.19 is straightforward:
Use your QA Program as a tool to get better.

This Element is intentionally open-ended because no one can define the single best way for every QA Program to improve. Each organization has different products, processes, risks, resources, and customers. Element 2.19 is not intended to prescribe a particular improvement methodology. It is intended to establish a structured and systematic approach to identifying opportunities, managing change, evaluating results, and continuing to improve over time.

And that improvement will not always be linear. A change may not produce the expected result. A quality metric may move in the wrong direction. A corrective action may reveal another underlying issue. These aren't necessarily failures of the process; they are information that can be used to determine what to do next. That is the real value of 2.19.

RISK MANAGEMENT ASSESSMENT TOOLS

By Randy Courson – Guardian Rail

This is one example of how to provide an assessment tool for evaluating risk. This example is for a Valve Department at a tank car facility. You can build similar assessments for other areas and departments at your facility.

A	B	C	D	E	F	G	H	I	J	K	L
Facility:							**Date:**				
Department Assesssment							**Risk Assessment**				
Supervisor/Lead - Knowledge and Qualifications 0 to 4 (0 being none and 4 being superior)	**Valve Personnel – Process Knowledge and Qualifications** 0 to 4 (0 being none and 4 being superior)	**Valve Documentation Accuracy** 0 to 4 (0 being minimal and 4 being superior)	**Verification of Calibrated Equipment & Records Management** 0 to 4 (0 being minimal and 4 being superior)	**Process Deviation / Utilization of Instructions & Repair Manuals** 0- extensive 1- significant 2- moderate 3- Minor 4- None	**FS Training Burden – Guardian & Customer Requirements** 0- extensive 1- significant 2- moderate 3- Minor 4- None	**Total Department Assessment Score**	**Product Risk Potential** 1- Severe 2- Serious 3- Moderate 4- Minor	**Customer Risk Potential** 1- Severe 2- Serious 3- Moderate 4- Minor	**Regulatory Risk potential** 1- Severe 2- Serious 3- Moderate 4- Minor	**AAR Certification Risk Potential** 1- Severe 2- Serious 3- Moderate 4- Minor	**Total Risk Assessment Score**
0	0	0	0	0	0	0	0	0	0	0	0
Suggested Corrective Actions for moderate and high risk facilities.											

Here is another example for evaluating the Quality Assurance Manager position, health of the local QAP and the risks involved.

Site	**QA Manager Time in position:** 0) < 6 months 1) < 6-12 mo. 2) > 1-5 years 3) > 5-10 years 4) > 10 years	**Estimated Quality Program knowledge** 0 to 4 (0 being none and 4 being superior)	**QA Manaer Engagement** 1-Unsalvagable 2- Disengaged but salvagable 3-Engaged but diverted. 4-Engaged	**Record management for equipment and employees** 0 to 4 (0 being minimal and 4 being superior)	**Non-Quality Program diversion burden** 0- extensive 1- significant 2- moderate 3- Minor 4- None	**Quality Program implementation & training burden** 0- extensive 1- significant 2- moderate 3- Minor 4- None	**Total Program QA Assessment Score**	**Product Risk potential** - Eval. of facility 1- Severe 2- Serious 3- Moderate 4- Minor	**Customer risk potential** - Eval. of facility 1- Severe 2- Serious 3- Moderate 4- Minor	**Regulatory risk potential** - Eval. of facility 1- Severe 2- Serious 3- Moderate 4- Minor	**AAR Certification risk potential** - Eval. of facility 1- Severe 2- Serious 3- Moderate 4- Minor	**Total Risk Score**	**Notes/Comments**
S	0	0	0	0	0	0	0	0	0	0	0	0	

Here is an example of some other risk factors you can use to evaluate your QA program.

Additional QA Program Risk Factors
Personnel Competency Risk
Evaluation of workforce training, qualification, and certification status
0 - Fully qualified workforce with current training records and certifications
1 - Minor training gaps identified
2 - Multiple overdue training requirements
3 - Significant qualification concerns affecting operations
4 - Critical competency deficiencies

Procedure Compliance Risk
Evaluation of adherence to work instructions, procedures, and QAP requirements
0 - Strong compliance history with minimal findings
1 - Occasional procedure deviations
2 - Recurring compliance concerns
3 - Frequent procedural nonconformances
4 - Systemic lack of procedural compliance

Audit Performance Risk
Evaluation of internal audits, customer audits, and AAR audit results
0 - No significant findings in previous audits
1 - Minor findings promptly corrected
2 - Moderate findings or repeat observations
3 - Major findings impacting compliance
4 - Repeat major findings or threatened accreditation status

Corrective Action Effectiveness Risk
Evaluation of timeliness and effectiveness of corrective actions
0 - Corrective actions consistently effective and timely
1 - Minor delays in closure
2 - Multiple overdue corrective actions
3 - Recurring issues despite corrective actions
4 - Corrective action process ineffective

Customer Complaint Risk
Evaluation of complaint frequency and severity
0 - No significant customer complaints
1 - Isolated minor complaints
2 - Increasing complaint trend
3 - Significant quality-related complaints
4 - Major customer concerns impacting business relationship

Summary.

Quality risk management is a proactive approach to protecting compliance, operational performance, and customer satisfaction. By regularly evaluating key risk indicators such as personnel competency, procedure compliance, audit performance, corrective action effectiveness, and customer complaints, organizations can identify emerging concerns before they become significant issues.

Effective risk assessments help focus leadership attention on areas that require additional oversight, training, or process improvement. Monitoring these factors strengthens compliance, reduces the likelihood of quality escapes, and supports continuous improvement throughout the organization.

Ultimately, risk management is about prevention, not reaction. By identifying weaknesses early and taking timely corrective action, we reinforce a culture where quality is built into the process, customer confidence is strengthened, and long-term operational excellence is sustained.

Use the tools to evaluate your QA program and administration tasks that affect your overall quality program.

2026 AAR M-1003 QUALITY ASSURANCE TRAINING SCHEDULE

COURSE	DATE	LOCATION
BASIC AUDITOR TRAINING CLASS	OCTOBER 27-29	NASHVILLE, TN
ADVANCED AUDITOR TRAINING CLASS	SEPTEMBER 29 – OCTOBER 1	MARMADUKE, AR
	OCTOBER 13-15	MONCLOVA, MX (SPANISH)

USFUL LINKS

Railway Supply Institute

RSI QAC & Previous Newsletters

RSI Tank Car Resource Center

Registry of M-1003 Certified Companies

M-1003 Frequently Asked Questions

American Society for Quality - Training

RSI 100

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)

AAR FAQ Page includes QAPE

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