

# AAR/RSI QUALITY NEWSLETTER

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## PROBLEM SOLVING TOOLS – 5 WHY ANALYSIS

Submitted by David Book – McConway & Torley

There are multiple types of root cause analysis. One of those tools is a 5 why analysis. It can be used alone or in combination with other root cause analysis tools.

### Purpose:

The 5 Why analysis is used to identify causes and to aid in selecting the root cause(s). The 5 Why method is generally better suited to complex problems requiring involved solutions than the fishbone method, which is preferable when dealing with relatively simple problems. This tool is also known as the why why method.

### When to Use:

- When the team needs to probe the root cause(s) of a problem.
- When the team's analysis of a problem is too superficial.
- To help explain the many causes of a problem to others.


### Procedure:

1. State the problem.
2. Brainstorm a list of reasons "*Why this problem exists.*"
3. Identify which of the reasons are deemed to be the most significant.
4. Brainstorm a list of reasons "*Why each of the most significant items generated in Step 2 exists.*"
5. Continue this until all of the new reasons are very specific and fundamental to policy, procedures, systems, training, etc. (See example.)
6. Determine the most significant reasons or causes. This usually requires data gathering and some type of data analysis. (See Root Cause Analysis.)

When answering the "Why?" question, be as specific as possible in identifying the reason. Think in terms of when, where, what and who. For example, "*Poor process yields*" may be given as one reason for "*Low operating profit*". Are all of the processes suffering from low yields or just some processes? What is the definition of poor? Be specific.

### Example:

This example takes one problem and one reason from each step into the why-why analysis. You can see that if this is done for all the reasons for a problem, a large number of possible causes will be found. This example is just a beginning. A possible root cause has been provided for closure of the process.

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1. Why is there time wasted on a job?
    - a. **Change in scope**
    - b. Re-dos
    - c. Changed priority
    - d. Waiting
  
  2. Why are there changes in scope?
    - a. New information becomes available
    - b. Lack of commitment by initiator
    - c. Objective unclear
    - d. Field changes
    - e. **Poor communication** between engineering and customer
  
  3. Why is there poor communication?
    - a. Not enough time
    - b. Rely too much on verbal or informal communications
    - c. **Assume communications without verifying**
    - d. Poor listeners
  
  4. Why are there communications without verification?
    - a. Not enough time
    - b. Assume the other person understands what you mean
    - c. Not required in the contract
    - d. **No simple way to verify the requirements** of all parties
  
  5. Why is there no simple way to verify the requirements?
    - a. **No project planning/contract review meeting is held prior to starting the job. (*Possible root cause!*)**

Continue this process for each reason. You may find a number of related causes as you get into the diagram. Occasionally, these will converge to a single root cause. If not, some sort of data collection and analysis will be required to determine the root cause or causes of the problem.

## VIEWS AND INTERPRETATIONS

Chapter 7 of AAR Specification M-1003 is what sets M-1003 apart from all other quality assurance specifications. It is the requirement that all nonconforming products and services supplied by an M-1003 certified company are reported to the AAR, the defect investigated by the supplier to determine a root cause with corrective action and that the corrective action is reviewed for viability by the reporting company **and**/or the AAR QA Committee.

**Q:** When do you issue a QA-7.1?

**A:** Anytime you have a material or service provided by an M-1003 Certified company that is nonconforming, but not due to abuse or normal wear.

**Q:** Who issues a QA-7.1?

**A:** Whomever received or found the nonconforming material or service. The reporting company might be a customer, a shipper, a railroad, a car owner, a repair shop, a manufacturing facility or anyone else in the industry who follows the AAR Manual of Standards and Recommended Practices or Interchange Rules.

**Q:** Is there a timeframe from when a nonconformance is found to when a QA-7.1 may be issued?

**A:** The QA-7.1 form should be issued within 30 days; remember the objective is to correct the root cause and the sooner the root cause is found the sooner it will be corrected. Often there is a time lag while the reporting company and the supplying company determine if there is a nonconformance. A delay in submission of the QA-7.1 beyond 30 days might be acceptable if the circumstances are documented.

**Q:** If I make a mistake on the QA-7.1 form such as selecting the wrong company, can I fix it?

**A:** Probably not, however the QA Program manager can, so please contact [QA@AAR.com](mailto:QA@AAR.com) for assistance in correcting a submitted QA-7.1.

## **AAR M-1003 CERTIFICATION TIMELINE CONCERNS**

Submitted by Bob Wolbert – Progress Rail (Member of AAR QAC)

From time to time the audit scheduling process may result in requested delays by the facility and/or the AAR auditor, or their auditing agency may have conflicts. This generally poses no issue during the compliance audit process, but what about when your recertification is coming due? Many suppliers have customers that require a copy of their M-1003 certificates and some have auto prompt notifications to request updated certifications. Of further concern is the request for quotation process when it requires a copy of your current certification in addition to other quality management documents.

The M-1003 auditors strive to provide ample advance notice of audit dates that are mutually agreeable. Occasionally, the recertification audit may run right up to and possibly beyond the facility's certification expiration date. Once the audit is conducted, any adverse audit findings submitted, responses approved and the package sent to the QAC for review and balloting, it is conceivable that expiration date might be exceeded by one or more months. This matter is addressed in the **AAR Registry of M-1003 Certified Facilities** found at <https://aar.iirx.net/Registry/Registry> .  
(Excerpts below)



### **Have a Question?**

Submit your M-1003 request for clarification or interpretation by emailing [QA@aar.com](mailto:QA@aar.com).



### **Have an Idea for an Article?**

Please submit your drafts to Donna Jacobi at [djacobi@amstedrail.com](mailto:djacobi@amstedrail.com) or Gary Alderson at [alderson@alltranstek.com](mailto:alderson@alltranstek.com).

## AAR Registry of M-1003 Certified Facilities

**Important Note:** If a facility is listed in the Registry, its M-1003 Certification is current even if the facility's certification expiration date has passed. From time to time, the renewal of a facility's certification becomes delayed for reasons beyond the facility's control and in that case the certification is considered current.



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[Export Registry](#)

QA Code *	Contractor Name	Contractor Location	Activity Description	Expiration Date
AKKS	AKK Railroad Materials, Inc.	Kansas City, KS	B75 - Manufacturers of Switches B76 - Manufacturers of Frogs B77 - Manufacturers of Ties	3/9/2022
STKI	A. Stucki Company	Hoon Township, PA	VCL - Manufacturer of Slide Bearings; Friction Elements; Manufacturer and Reconditioner of Hydraulic Stabilizers	3/7/2021
ABXCL	ABTREC Industries, Inc.	Cleveland, TX	C10 - Repair of Interior Linings and Coatings in Tank Cars C11 - Inspection of Interior Linings and Coatings in Tank Cars C7 - Removal of Interior Linings and Coatings in Tank Cars C8 - Installation of Interior Linings and Coatings in Tank Cars C9 - Qualification of Interior Linings and Coatings in Tank Cars	5/1/2020
ACAP	ACF Industries, LLC - Milton	Milton, PA	A10 - Manufacturer of Tank Cars B24 - Tank Car Repair Facility B25 - Freight Car Repair Facility Engaged in Repairs Involving over 85 Hours Labor and/or Wreck Damage B26 - Freight Car Repair Facility Performing Office Manual Rule 88 Repairs/Modifications B81 - Qualification of Tank Cars B85 - Manufacturer of Pressure-Retaining Tank Components that are moved to and from the facility without trucks (running gear) C4 - Manufacturer of Tank Car Service Equipment C5 - Recondition/Repair and Qualification of Tank Car Service Equipment C6 - Removal and Replacement of Tank Car Service Equipment (including changing of gaskets) C8 - Installation of Interior Linings and Coatings in Tank Cars C9 - Qualification of Interior Linings and Coatings in Tank Cars	6/26/2022

## NEW 2019 REVISIONS TO MSRP SECTION J - AAR M-1003 QUALITY ASSURANCE SPECIFICATION

Submitted by Don Guillen – TTCI/AAR

Below is a brief summary of the revision process for MSRP Section J – AAR M-1003:

- 2-Year Effort Collaborating with FRA, AAR Counsel and other AAR Technical Committees
- Started with definitions – some new, clarification
- Ensured definitions had same meaning throughout section J
- AAR Counsel reviewed and appeals section revised
- Received over 230 industry comments
- Minor or few changes in Chapter 2
- Moved Chapter 4 to AAR Accredited Auditors Handbook
- Moved Chapter 5 to Appendix D as a Recommended Practice for Internal Quality Auditing
- A Circular Letter announcing the 2019 Section J is available to purchase was issued Tuesday, October 15 with a 6-month implementation phase (click here for a link: [Section J](#))
- Revisions will be reviewed in detail at the QA Conference in January where we will train the 60+ AAR Accredited Auditors and Conference Attendees



### 2020 AAR QUALITY ASSURANCE CONFERENCE

Registration is now open for the 2020 AAR Quality Assurance Conference. The conference will be the week of January 28<sup>th</sup> in Fort Worth, TX. Click on the link for more information or to register: <https://aar.com/downloads/Conference%20flyer%206-4-19%20linked.pdf>

Below is a listing of the workshops being offered at the conference:

Day 3 – Thursday, January 30			
Time	Open Session	Company	Presenter
8:00 am	Safety & Antitrust	Transportation Technology Center, Inc	Mark Rusovick
8:10 am	AWS D15 Advanced Welding Requirements	Union Tank Car Company	John Killion
9:30 am	Write & Revise 2019 M-1003 Revisions into QA Manuals	AllTranstek	Gary Alderson
12:00 pm	Lunch Not Provided		
1:00 pm	How to Write a Quality Procedure	Salso Products	Tom DeLafosse
2:00 pm	Adjourn		



**AAR 32nd Annual Quality Assurance Conference**  
 January 28-30, 2020  
 Hilton Downtown • Fort Worth, TX

Improving the Safety and Productivity of Rail Transportation through Quality

**The Association of American Railroads' (AAR) 32nd annual Quality Assurance Conference is coming January 2020!**

**REGISTER TODAY**  
 Cost: \$814/person  
 Register at <https://tinyurl.com/y5qhph4j>  
 Hilton Downtown Fort Worth - \$185/night: <https://tinyurl.com/y3vzseud>

**AAR M-1003 CERTIFIED**

Tues./Wed., Jan. 28-29:

**Open Sessions for all attendees**

Sessions presented by AAR QAC members and railway industry professionals:

- Root Cause Analysis Tools
- M-1003 Audit Findings & Best Practices
- Statistical Process Control/Statistical Methods
- Rail Supply Institute presentation
- Keynote Address (to be announced)
- AAR Committee Updates
- New M-1003 Revisions

Thursday, January 30:

**Hands-on Workshops for all attendees**

To be announced.

While this conference is designed as a forum for the AAR Accredited Auditors, anyone interested in the M-1003 auditing process is invited to attend this valuable learning event!

For more information, please contact Don Guillen or Mark Rusovick at [QA@aar.com](mailto:QA@aar.com)



## CALENDAR OF EVENTS AND IMPORTANT LINKS

### 2020 Calendar of Events

Training	Date	Location
AAR Quality Auditor and Industry Conference	January 28-30	Fort Worth, TX
Basic Auditor Training Class	February 11-13	Virginia Beach, VA
	April 7-9	New Orleans, LA
	June 16-18	San Diego, CA
	August 25-27	Colorado Springs, CO
	September 22-24	Nashville, TN
	September 22-24	Guadalajara, MX
Advanced Auditor Training Class	March 3-5	Saginaw, TX
	April 28-30	Greenville, SC
	May 26-28	Sahagun, Hgo. MX
	July 21-23	Colton, CA
	Sept. 29-Oct. 1	Jacksonville, FL
Root Cause & Corrective Action Class	February 25-26	Orlando, FL
	May 27-28	Denver, CO

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](#)

[RSI QAC & Previous Newsletters](#)

[RSI Tank Car Resource Center](#)

**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](mailto:QA@aar.com).**

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

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Ray Morgan – The Greenbrier Companies

Mark Rusovick – TTCI/AAR

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