Mechanical Association Railcar Technical Services

www.marts-rail.org

Guidelines to a Successful Audit

Evolution of Tank Cars and Bureau of Explosives

Rule 1 Gage Presentation

Presented by
Railcar Repair Committee
- Randy Thomure – Chairman
- James Rader – Greenbrier Management Services
- Neil West – Trinity Rail
- Jerry Bohacik – CF Rail Service

Guidelines to a Successful Audit

Panel Participants

- Steve Berkshire – Chief Inspector, AAR MID Group
- Larry Strouse – General Engineer, FRA
- Adrian "Ray" Morgan, VP Quality, GBW Repair Shops
- Dean Matzo, VP Quality, Trinity Rail
- Jon Kramer, Manager Quality Assurance, Andersons
- Randy Thomure, Rail Asset Advisors, Moderator

MARTS
2017
Indianapolis, IN

Guidelines to a Successful Audit

Stephen Berkshire
Chief Inspector MID

M-1003 Quality Assurance Specification

♦ **What is it?**
  - Railroad industry standard for a Quality Management System

♦ **Why do we use it?**
  - Catastrophic failures decrease 50% after M-1003 was initiated
  - Increases safety and reduce costs

♦ **What's its history?**
  - Started with journal roller bearings
  - Companies want the certification to give the industry confidence in their products

1985	Today
1 Component	133 Components
2 Auditors	53 AAR Auditors

Be Prepared

◆ Be ready all the time … not just at scheduled audit times

◆ Properly trained employees …

◆ Facility & Equipment is ready …

◆ **Know your program …**

◆ Be involved ….

Watch out for Pitfalls

♦ Getting around to it …

♦ No findings so No worries …

♦ QA's problem …

♦ Costs too much … time or money

♦ Poor investigation …

♦ Production / Production / Production ….

CONFRONTATION®

- Aggressiveness attacks the other person rather than the problem. It is a destructive desire to dominate another person or to force a position or viewpoint on another person; it starts fights or quarrels.

How Do We Improve?

♦**Self Audits**

♦**Better Training / Mentorship**

♦**Ask Questions of the Workers**

♦**Get ALL Involved**

How Do We Improve?

♦ **Audit Results ….**

♦ **Vendor Audits ….**

♦ **Review procedures / processes**

♦ **Spot check records**

♦ **Management Reviews**

Federal Railroad Administration

Guidelines For

A

Successful Audit

MARTS
Indianapolis, IN

Lawrence H. Strouse CW Engr., P.E.
General Engineer (HM Packaging)

Mechanical Association Railcar Technical Services - Indianapolis, IN 09-18-2017

Learning Objectives

- DOT Safety Policy

- Federal Expectations for Tank Cars

- Successful Auditing

- Where We've Been

- Where We're Going

- Questions

DOT Safety Policy

US Department of Transportation Federal Railroad Administration

Railroad Safety

FLAMMABLE 3

Hazmat

POLICY STATEMENT ON SAFETY 2011

In carrying out our transportation mission, safety is our highest priority. Every life is precious, and we must strive to ensure the safety of every user of our transportation systems, as well as all who are affected by those systems. Injuries and loss of life are unacceptable in the efficient and effective transportation of goods and people, and we must take every practical action to prevent those tragedies from happening.

The American public has entrusted us with the responsibility of assuring the safety of our transportation systems. We will hold ourselves accountable, measure our performance, and continuously act to make our transportation systems safer. We expect no less from our transportation partners. Our guidance, oversight, and regulatory decisions will emphasize safety and be timely, fair, reasonable, and necessary. We can and should be a change agent by exemplifying and promoting a safety culture in which the values, actions, and behaviors of our employees reflect this priority.

Safety begins within our own Department, and the ability to carry out our statutory responsibilities is directly tied to the health and wellbeing of our workforce. The safety of our own employees is paramount. Each of our employees should be provided with a safe working environment, and know how to respond to emergencies and avoid unnecessary risks. We also expect supervisors and managers to provide our employees with an environment that promotes the open sharing of safety concerns, without fear of reprisal, as well as processes to assure those concerns are addressed. It is the responsibility of all DOT employees to conduct themselves in a way that does not pose unnecessary risks, or put themselves or others in danger.

Everyone within the Department is expected to exercise effective leadership in support of this policy, which shall be posted throughout the Department, clearly visible and accessible to all employees.

Ray LaHood

Federal Expectations for Tank Cars

Part 179.7(a) – Each tank car facility shall have an AAR approved Quality Assurance Program which:

(1) Ensures the finished product conforms to the requirements of the applicable specification & regulations of this subchapter;

(2) Has the means to detect *any* nonconformity in the manufacturing, qualification, repair & maintenance programs of the tank car;

(3) Prevents nonconformities from recurring.

Federal Expectations for Tank Cars

What is a Quality Assurance Program (QAP)?

Quality Assurance (**QA**) is:

- A systematic way of preventing defects & avoiding problems when delivering products & services;

- The administrative & procedural activities implemented to ensure product & service requirements will be met;

- The development, deployment, & monitoring of processes to ensure product or service requirements will be met;

- A feedback loop that prevents defects & avoids problems;

- Different than quality control which focuses on process output (First-Pass Yield);
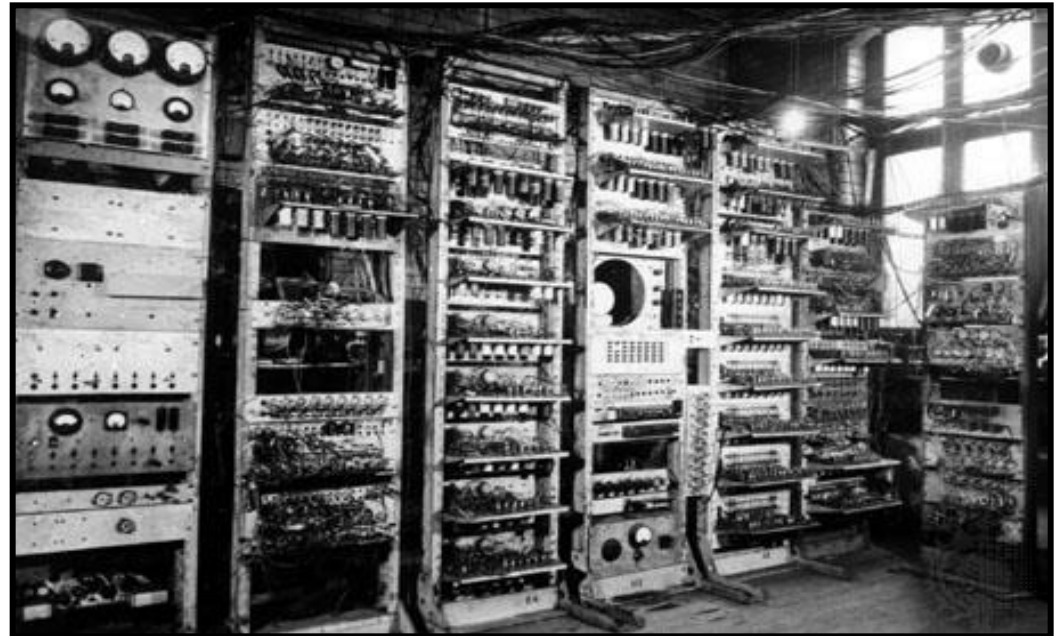
Federal Expectations for Tank Cars

What is a Quality Assurance Program (QAP)?

Quality Assurance (**QA**) is:

- *Like a Computer Operating System i.e. Runs In The Background So Other Processes & Procedures Run Effectively & Efficiently !!!*

Successful Auditing

Steps For A Successful Audit

1. Identify the Stakeholders;

2. Understand the Operating System (QAP);

3. Review the Quality Policy;

4. Identify Process Linkages;

5. Quantify Process Consistency;

6. Discover "Hidden Factories" (Workarounds);

7. Review Internal Audits.

Successful Auditing

Steps For A Successful Audit

1. Identify the Stakeholders

    - Who Commissioned the Audit ?

    - Who Will Read the Audit Report ?

    - Who has the Authority to Make Changes & Fix Problems ?

    - Who can Hire, Fire, & Spend Money ?

    - Who is Affected by Noncompliance ?

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Successful Auditing

Steps For A Successful Audit

2. Understand the Operating System (QAP)

    - Identify Scope & Covered Activity(ies);

    - Review Process Map(s);

    - Identify Hold Point(s);

    - Identify Reporting Authority(ies);

    - Define System Constraint(s).

Successful Auditing

Steps For A Successful Audit

3. Review the Quality Policy

    • Does Quality Policy Include All Covered Activities ?

    • Identify Signatory on Organization Chart;

    • Does Signatory Job Description Cover QAP ?

    • Does Signatory "Own" All Covered Activities ?

    • Does Signatory Know Quality Policy ?

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Successful Auditing

Steps For A Successful Audit

4. Identify Process Linkages

    • What Process Elements are Linked & / or Digitized ?

    • Do Linked / Digitized Elements Function as Designed ?

    • Are Planned Linkage / Digitization Projects on Schedule ?

    • Are Performance Metrics Developed for Each Process ?

    • If Performance Metrics Exist, Do They Improve Process Performance ?

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Successful Auditing

Steps For A Successful Audit

5. Quantify Process Consistency

   • Define Acceptable Process Performance;

   • Ask Different Process Participants to Perform the Same Process Task;

   • Ask the Same Process Participant to Perform Different Process Tasks;

   • Verify Acceptance Criteria are Uniformly Applied;

   • Apply Statistical Tools (Measurement System Analysis).

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Successful Auditing

Steps For A Successful Audit

6. Discover "Hidden Factories" (Workarounds)

- Ask Process Personnel What Happens When the Process Doesn't Work;

- How is Quality Built Into the Process, Product or Service, and Not Inspected In;

- Determine if Barriers Exist Between Departments;

- Determine What Role Quotas Play in Realizing a Process, Product or Service;

- Determine Where Education & Self Improvement Fit In.

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Successful Auditing

Steps For A Successful Audit

7. Review Internal Audits

    - Verify Signatory Participation;

    - Verify Internal Audit Finding(s) / Root Cause(s) / Corrective Action(s) are Part of Management Review;

    - Verify Internal Audit Root Cause(s), Corrective & Preventive Action(s) Schedules Have Been Met;

    - Are Internal Audits Based on Risk ?

    - *It's the System, Not the People.*

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Where We've Been

- "Quality Control" Programs;

- Supervision by Verbal Instruction;

- Suppliers Based on "Historical Relationships";

- "Missing" Organizational Elements;

- Internal Audits for Cause;

- No Documented Management Reviews;

- No Owner QMP Integration.

Where We're Going

- Strategic Management through QAP;

- Define and Deploy Processes;

- Define and Deploy Quality Policy;

- Identify Process Linkages

- Determine Process Consistency;

- Identify "Hidden Factories"

- Evaluate Internal Audit Effectiveness.

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US Department of Transportation
Federal Railroad Administration

Railroad Safety ★

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USS Illinois – SSN 786

"Our business will look more like the submarine business & less like the boxcar business" Unknown

Questions For The Panel

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