

INSIDE THIS ISSUE

Page 1 – Revision to the M-1003 Standard

Page 1 –Upcoming Tank Car Specific Industry Changes and Dates to Know

Page 4 – Useful Links

REVISION TO THE M-1003 STANDARD

Submitted by Donna Jacobi – Amsted Rail

In the previous issue of the newsletter, the revision process of an AAR MSRP was explained. Currently, AAR MSRP, Section J, Specification for Quality Assurance (Specification M-1003) is being revised. A task force was formed with membership from the AAR Quality Assurance Committee (QAC) and the RSI QAC. After a couple of months of frequent meetings, the task force compiled a list of proposed changes to Specification M-1003. The proposed changes were then reviewed by the full membership of the AAR QAC and approved to move forward with no modifications to the proposal. Currently, the editor is compiling all of the changes and creating a draft M-1003 specification. The draft will then be reviewed to ensure all of the

recommended changes were incorporated. Once the draft is finalized, it will be ready for industry review. A Circular Letter will be issued with the approved changes and the industry will have 30 days to comment. The Circular Letter is planned for circulation in the coming months. The AAR QAC will then review industry comments and decide what changes, if any, to make to the M-1003 specification before it is issued. Highlights from the planned version are below:

- The revision maintains the current 24 clause structure of chapter 2.
- Terms which are included in the definitions (section 1.3) are italicized throughout the standard for ease of reference.
- Several requirements which had previously been listed in views and interpretations (appendix C) are now incorporated in chapter 2.
- Views and interpretations will be removed from M-1003 and added to the AAR QAC frequently asked questions web page. This will allow for more frequent update by the AAR QAC.

UPCOMING TANK CAR SPECIFIC INDUSTRY CHANGES AND DATES TO KNOW

Submitted by Jake Sternberg – AITX and Gary Alderson - AllTranstek

Two recently released AAR circulars letters have resulted in some large changes in the tank car industry. CPC 1375, released on March 10th, 2021, outlined the implementation of tracking tank car pressure relief valves (PRV's) in Umler. Circular CPC 1376, released on March 19th, 2021, outlined changes to AAR MSRP Section C-III M-1002 Specification of Tank Cars Appendix T Nondestructive Testing (NDT). The changes outlined in the forementioned two CPC's are outlined below.

CPC-1375

This circular implemented the tracking of tank car pressure relief valves (PRV's) using Component ID's (CID) registered in Umler. **Effective July 1st**, tracking will be required for all new and reconditioned PRV's. This applies to tank car PRV's that are manufactured, assembled, tested, or reconditioned after July 1st. PRV's already applied to tank cars, or PRV's that are currently in inventory do not require tracking until their next maintenance event or six month shelf life expiration. This circular also made mention of plans for a multi-phase, multi-year initiative to track tank car service equipment through Umler. This circular forced revisions to MSRP Section C-III Chapter 1, Appendix A, Appendix D, MSRP Section F, S-920, and the AAR Field and Office Manuals. Umler will be used to track the life and health of tank car PRV's from manufacturer/assembly through maintenance and reconditioning until the PRV is no longer in service. Here are a few definitions to know when tracking PRV's:

- Identification – Attaching a CID label to the PRV for physical identification
- Registration – Assigning a unique CID number to the a particular PRV in Umler. This effectively links the PRV serial number and the PRV CID number. This may only be performed by a tank car facility having activity code C4a, C4m, or C5 with service equipment category S.
- Association – Associating a particular PRV with a particular Tank Car in Umler. This effectively links the PRV to a designated tank car. This may only be performed by a tank car facility having activity code C6i or C6r.

For more details regarding a tank car facility's responsibility to identify, register, and associate PRV's, see MSRP Section C-III Chapter 1. For details regarding PRV marking/serial number requirements see MSRP Section C-III Append A. For CID number and CID label requirements for PRV's, see MSRP Section F, S-920. AAR Field Manual Rule 81 now specifies that the billing repair card must show the CID for the applied PRV like other components tracked using CID numbers.

In addition to CPC 1375, CPC 1378 was released on March 30th, which clarified the serial number marking requirements for tank car service equipment based on the CPC-1375 changes.



Have an Idea for an Article?

Please submit your drafts to Donna Jacobi at djacobi@amstedrail.com or Gary Alderson at alderson@alltranstek.com.

Interested in Joining RSI QAC?

Contact Lee Verhey at verhey@rsiweb.org.



Not Getting the Newsletter and Want to Subscribe?

Contact Lee Verhey at verhey@rsiweb.org.

CPC-1376

This circular letter outlines several changes to AAR MSRP Section C-III M-1002 Specifications for Tank Cars Appendix T Nondestructive Testing that became effective on the date of release of the circular letter.

Appendix T now includes the addition of the electromagnetic testing method (ET) and the ET technique of alternating current field measurement (ACFM). Provisions have not been added to other appendices of Section C-III specifying the usage of ET for qualification and maintenance of the tank car tank. At this time, a special permit is required to use ET for qualification and maintenance of the tank car tank. The technique of automated ultrasonic testing (AUT) received some revisions that include clearer definition of the essential variables for AUT procedures and calibration block requirements.

Hydrostatic Leak Testing (HLT)

Although HLT has been a federal requirement for qualifying new tank car construction and certain tank car repairs, the inclusion of HLT in Appendix T comes with the additional requirements for qualifying a HLT procedure and the qualification/certification of personnel to perform HLT. HLT must be incorporated into NDT program by **January 1, 2022**.

HLT is required to test:

- Interior heater coils for leaks - 179.12
- For DOT 107A Tanks, each tank car tank after heat treatment – 178.500-14
- Each inner container or compartment – 179.220-23 & 179.400-18
- Tank car tank welds after postweld heat treatment in lieu of other NDT – 179.300-16
- When required by Part 180 Subpart F
- Pressure car tanks for the following repairs or alterations:
 - Complete penetration welds of the tank, such as inserts, rings, heads, and through-wall repairs
 - The application, replacement, or relocation of welded components that retain pressure, such as nozzles, flanges, and sumps

Visual Testing (VT) Method

Appendix T previously listed two techniques for visual method, these were “Welding Inspection” and “Remote Visual Inspection”. Upon the release of this circular, welding inspection is now considered a limited certification under the VT method and applies to visual inspection of welds only. The two techniques listed in Appendix T has removed welding inspection as a technique of visual and has added a new technique, “Direct”. Additionally, an AWS CWI, SCWI, or CSA 178.2 can no longer function as an NDT Level II or III for VT (Direct & Remote Visual Inspection).

Currently, the technique of direct visual inspection is undefined. CPC 1376 states, “AAR Tank Car Committee (TCC) has committed to review the current Chapter 1 terms of “visual” and “visual inspection” within M-1002 and determine when visual inspection must be conducted in accordance with Appendix T. It is the intent of the AAR TCC to complete this action prior to the republication of the M-1002. Ideally this effort will clear up ambiguity of the phrase visually inspect in relation to visually inspecting the tank car tank, tank car tank welds, and tank car service equipment.

In accordance with AAR C-III, appendix T, paragraph 1.3, the changes for visual testing (VT) must be implemented by **September 19, 2021**. Your procedures and personnel should be in place by this date even though the AAR plans to provide additional information regarding where the new VT requirements apply.

CPC-1376 has been superseded by CPC-1379 based on a single editorial correction. CPC-1379 now contains the most current version of MSRP Section C-III Appendix T.

This article is not meant to be an in-depth review of these two circulars. It is meant to bring awareness to the changes and the upcoming implementation date.

USEFUL 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 \(Chapter 7\)](#)

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