APPENDIX B
CERTIFICATION OF TANK CAR FACILITIES

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APPENDIX B
CERTIFICATION OF TANK CAR FACILITIES

1.0 INTRODUCTION
For the safe, efficient, and uniform interchange of rail equipment in North America, tank car facilities must comply with all applicable AAR specifications, standards, recommended practices, and interchange rules.

Additionally, the AAR Tank Car Committee has been delegated by the DOT under Title 49 CFR Subchapter C, Part 179, Subpart A, Section 179.7 to approve the quality assurance program of each tank car facility and ensure that the requirements of §179.7 are met.

1.1 Scope
This appendix establishes, for each tank car facility, the requirement to obtain and maintain certification to the AAR M-1003 Quality Assurance Program, the AAR M-1002 technical approval requirements for each activity, and the administrative provisions pertaining to certification.

For activities outside the scope of this appendix, facilities should refer to MSRP-J, Specification M-1003, Appendix A, to determine if the activity requires additional certification.

1.2 Objective
The objective of this appendix is to specify the technical requirements that must be met for AAR certification of a tank car facility. This is accomplished through evaluation by an AAR audit agency of the effective implementation and integration of the activity within the tank car facility quality assurance program.

1.3 Definitions and Context Meanings
When terms or abbreviations are used in this appendix and are printed in italics, they shall have the meanings stated in Chapter 1.

Unless otherwise specified, chapters and appendices referenced herein are those of Specification M-1002.

2.0 M-1003 QUALITY ASSURANCE PROGRAM REQUIREMENT
Each tank car facility must establish and effectively implement a quality assurance program per AAR MSRP-J, Specification M-1003.
3.0 M-1002 TECHNICAL APPROVAL REQUIREMENTS

3.1 Certification Elements

Table B.1 lists the elements that govern the certification of a tank car facility by the applicable activity code(s), material group(s), repair level(s), and service equipment category. Populated cells indicate required elements that must be obtained and maintained in order to be certified to the activity listed; blank cells indicate not applicable.

Table B.1 Certification elements for tank car facilities (page 1 of 2)

<table>
<thead>
<tr>
<th>Activity code</th>
<th>Activity</th>
<th>Technical Approval Dependencies</th>
<th>Material Group Required</th>
<th>Repair Level Required</th>
<th>Service Equipment Category Required</th>
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<tr>
<td>A19</td>
<td>Construction of Tank Cars by Manufacturing</td>
<td>S-2034[^1], B81, C6i</td>
<td>See paragraph 3.1.2</td>
<td></td>
<td></td>
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<tr>
<td>B24</td>
<td>Maintenance and Modification of Tank Car Tanks</td>
<td>B81</td>
<td>See paragraph 3.1.2</td>
<td>RL1 or RL2</td>
<td></td>
</tr>
<tr>
<td>B78</td>
<td>Construction of Tank Cars by Assembly</td>
<td>S-2034[^1], B81, C6i</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>B81</td>
<td>Qualification of Tank Car Tanks</td>
<td>A19, B24, B78 and/or B82</td>
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<td></td>
</tr>
<tr>
<td>B82</td>
<td>Manufacture Tank Car Tanks</td>
<td>B81</td>
<td>See paragraph 3.1.2</td>
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<tr>
<td>B85</td>
<td>Manufacture Tank Car Tank Components</td>
<td></td>
<td>See paragraph 3.1.2</td>
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<tr>
<td>B87</td>
<td>Maintenance and Qualification of Fuel Tanks for Locomotive Fuel Tenders</td>
<td></td>
<td>See paragraph 3.1.2</td>
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<td>B90</td>
<td>Maintenance, Alteration, and Qualification of Tank Car Stub Sills</td>
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<td>RLS</td>
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<tr>
<td>B89</td>
<td>Maintenance, Modification, and Qualification of Safety Systems</td>
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<tr>
<td>C4a</td>
<td>Assemble and Qualification of Tank Car Service Equipment</td>
<td></td>
<td></td>
<td>See paragraph 3.1.4</td>
<td></td>
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<tr>
<td>C4m</td>
<td>Manufacture and Qualification of Tank Car Service Equipment</td>
<td></td>
<td></td>
<td>See paragraph 3.1.4</td>
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<tr>
<td>C5</td>
<td>Maintenance and Qualification of Tank Car Service Equipment</td>
<td></td>
<td></td>
<td>See paragraph 3.1.4</td>
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<tr>
<td>C6i</td>
<td>Install Tank Car Service Equipment, Including Leakage Test</td>
<td>A19 and B78</td>
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<tr>
<td>C6r</td>
<td>Remove and Replace Tank Car Service Equipment, Including Gaskets, Leakage Test, and Modifications</td>
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<td>See paragraph 3.1.4</td>
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<td>C7</td>
<td>Removal of Interior Linings and Interior Coatings in Tank Cars</td>
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<td>C8</td>
<td>Installation and Qualification of Interior Linings and Interior Coatings in Tank Cars</td>
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<tr>
<td>C10</td>
<td>Maintenance and Qualification of Interior Linings and Interior Coatings in Tank Cars</td>
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</table>
3.1.1 Activity Codes
Table B.1 lists the activities that require technical approval. Each activity code is independent unless otherwise specified in Table B.1.

3.1.2 Material Groups
Table B.2 lists the approved material groups from Appendix M. For those activities specified in Table B.1, the tank car facility must be certified to one or more of the material groups listed in Table B.2. Each material group is independent, and a tank car facility can perform welding only under the material group(s) to which it is certified.

3.1.3 Repair Level
For those activities specified in Table B.1, the tank car facility must be certified to the appropriate repair level listed in Table B.3. Each repair level is independent except that RL2 encompasses RL1 capability. A tank car facility can perform weld repairs only under the repair level(s) to which it is certified.
3.1.4 Service Equipment Category

For those activities specified in Table B.1, the tank car facility must be certified to one or more service equipment categories listed in Table B.4. Each service equipment category is independent, and a tank car facility can perform activities only under the service equipment category to which it is certified.

Table B.4 Service equipment category

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<td>C</td>
<td>Closures</td>
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<tr>
<td>F</td>
<td>Fittings</td>
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<tr>
<td>I</td>
<td>Instruments</td>
</tr>
<tr>
<td>S</td>
<td>Safety Relief Devices</td>
</tr>
<tr>
<td>V</td>
<td>Valves</td>
</tr>
</tbody>
</table>

3.1.5 Certification Conditions

3.1.5.1 Tank car facilities certified to A19 and B82 activity codes may subcontract the manufacturing of tank car tank components to their own designs and specifications, provided that the tank car facility complies with paragraph 3.4. In those circumstances, the manufacturer of the tank car components is not required to separately obtain AAR certification. Otherwise, B85 is required for the tank car facility that manufactures tank car tank components.

3.1.5.2 Tank car facilities certified to A19 and B78 that are not located in North America must have either a designated AAR agent or an AAR repair facility/repair track in North America where final acceptance to safety appliances, air brake systems, and AAR interchange requirements can be confirmed.

3.1.5.3 Tank car facility certification to C7, C8, and/or C10 is required for interior linings and interior coatings in tank cars that transport materials for product purity and those materials that are corrosive or reactive to the tank car tank as defined in 49 CFR 180.503.

3.1.5.4 Only tank car facilities certified to A19, B24, B78, B81, B82, B90, C6i, C6r, C7, C8, or C10 can replace and/or repair the qualification markings per 49 CFR 180.515, the tank car stenciled specification, and variable identification plate per 49 CFR 179.24 on a tank car.

3.1.5.5 Activity code B82 applies to the manufacturing of tank car tanks moved to and from the facility without trucks (running gear), and, if applicable, includes the underframe and the support structure.

3.1.5.6 Tank car facility certification to C8 permits the installer of tank car interior linings and interior coatings to perform repairs as part of the installation process; however once the tank car lining or coating is qualified, the tank car facility must be certified to activity code C10 in order to perform maintenance and qualification to the tank car interior lining or interior coating.

3.1.5.7 Tank car facility certification to A19 does not require activity code B24 if repairs are performed as part of the manufacturing process; however once a tank car is certified by the A19 facility (certified AAR Form 4-2) the tank car facility must be certified to activity code B24 in order to perform maintenance and qualification to that tank car tank.

3.1.5.8 Activity codes C4m and C5 include welding of tank car service equipment, and therefore certification to those activity codes requires the tank car facility to comply with paragraph 3.3.1.2.

3.1.5.9 Activity code C4m includes the application of linings or coatings of tank car service equipment, if performed.

3.1.5.10 Activity code C5 includes the removal/maintenance of linings or coatings of tank car service equipment, if performed.
3.1.5.11 Activity code C5 and C6r with service equipment category C include eyebolts for hinged and bolted manways and fill covers; however, maintenance or remove/replace of eyebolt(s) does not qualify as a minimum demonstration for activity code C5 and C6r.

3.1.5.12 Tank car facility certification to B78 does not authorize welding to the tank car tank but does authorize welding to the reinforcing pads and any other tank car pads, provided the tank car facility complies with paragraph 3.3.1.2.

3.1.5.13 Activity code C4a covers those facilities that produce new tank car service equipment by way of an assembling process, without any manufacturing processes. Those facilities that have a combination of manufacturing and assembling processes must be certified to C4a and C4m. For example, and by way of clarification, C4a is not intended to cover reconditioning tank car service equipment, which is covered by C5.

3.1.5.14 Activity code C4m covers those facilities that produce new tank car service equipment by manufacturing. All components and manufacturing processes of service equipment Category C must be manufactured or performed by a facility that is certified to manufacture or perform them. For example, and by way of clarification, in the case of a manway cover casted at one location and machined and qualified at another location, both such locations must be certified for those activities.

3.1.5.15 The leakage test in activity codes C6i and C6r refers to the qualification of the connection of service equipment to the tank car.

3.1.5.16 Tank car facility certification to C6r is required for bottom outlet valve caps, magnetic gauging device rods, secondary closures, chains, and flanges external to valves as specified by the original or alternative approved design.

3.1.5.17 Repair level RLJ is required only if a tank car facility performs welded repairs to tank car jackets. RLJ can be added to any activity, excluding A19 and B78.

3.1.5.18 Repair level RLS excludes pad-to-tank welds. Pad-to-tank welds require B24 certification.

3.1.6 Exceptions
Tank car facility certification is not required for the following:

3.1.6.1 Examinations prior to shipping per 49 CFR 173.31(d)

3.1.6.2 Conductivity or resistivity examinations of tank car interior linings and coatings prior to shipping

3.1.6.3 Replacement/repair of any markings or stencils on tank cars other than those specified in paragraph 3.1.5.4

3.1.6.4 Double shelf coupler replacement (i.e., coupler vertical restraint system) in accordance with the Field Manual of the AAR Interchange Rules

3.1.6.5 Replacement of gaskets with the correct size as specified by the equipment owner and compatible with the lading on the following service equipment: hinged and bolted manway cover, fill port cover, bottom outlet cap, and quick disconnect dust cap (when used as a secondary closure)

3.1.6.6 Replacement of O-rings with the correct size as specified by the equipment owner on gauging device caps and thermometer well housing tubes

3.1.6.7 Replacement of the rupture disk with the correct dimensional size and pressure rating as specified by the equipment owner and compatible with the lading

3.1.6.8 Manufactures of O-rings, gaskets, eye-bolts, washers, and threaded fasteners
3.1.6.9 The repair of attachments to jacket pads (see Field Manual of the AAR Interchange Rules, Rule 81)

3.1.6.10 The repair of draft lugs, striker, draft key slot, and coupler carrier (see Field Manual of the AAR Interchange Rules, Rule 81)

3.2 Publications

3.2.1 Each tank car facility must have lawful access to the latest versions of the publications below. Information on where to obtain AAR publications can be found in the “Ordering Information” section of this specification.

3.2.1.1 MSRP, Section C, Part III, Specification M-1002, “Specifications for Tank Cars”

3.2.1.2 MSRP, Section J, Specification M-1003, “Specifications for Quality Assurance”

3.2.1.3 Field Manual of the AAR Interchange Rules

3.2.1.4 Office Manual of the AAR Interchange Rules

3.2.1.5 Safety and Operations circular letters

3.2.2 Each tank car facility certified to A19 or B78 must have lawful access to the latest version of the publications below:

3.2.2.1 MSRP, Section C, Standard S-2034, “Car Builder Certification”

3.2.2.2 MSRP, Section C, Part II, Specification M-1001, “Design, Fabrication, and Construction of Freight Cars”

3.2.3 Each tank car facility must have access to the applicable federal regulations.

3.3 Personnel Qualifications

The following are personnel qualification requirements for the special processes associated with technical approval.

3.3.1 Welding

3.3.1.1 Personnel engaged in welding on tank car tanks must be performance-qualified in accordance with Appendix W, paragraph 11.0.

3.3.1.2 Personnel engaged in all other welding shall be performance-qualified in accordance with the American Welding Society (AWS) Railroad Welding Specification D15.1, latest revision. This includes, but is not limited to, the welding on tank car jackets, stub sills, and service equipment.

3.3.2 Nondestructive Testing (NDT)

Personnel engaged in NDT processes must be qualified and certified in accordance with Appendix T, paragraph 1.5.

3.3.3 Interior Lining and Interior Coating

Personnel engaged in interior lining and/or interior coating activities must be qualified in accordance with Appendix L, paragraph 3.0.

3.3.4 Local Postweld Heat Treatment

Personnel engaged in local postweld heat treatment processes must be qualified in accordance with Appendix R, paragraph 19.3.2.5.
3.4 Subcontracting

Subject to the limitations in paragraph 3.4.1, a tank car facility can subcontract provided the tank car facility assumes responsibility for all work performed by the subcontractor. A tank car facility cannot subcontract an activity.

3.4.1 A tank car facility can subcontract only those products, services, and/or equipment listed below:

- Interior Coating inspector per Appendix L
- Interior lining inspector per Appendix L
- Welding inspector per Appendix W
- NDT personnel (level I, II, and III) per Appendix T
- LPWHT per Appendix R
- Hardness testing per Appendix W
- Measuring and test equipment calibration
- Internal QA M-1003 audits
- Engineering services
- Metallurgical or physical lab services
- Any component(s) for service equipment categories F, V, S, and I (applicable only to C4a, C4m, C5, and C12)
- Manufacture of tank car tank components per paragraph 3.1.5.1 (applicable only to A19 and B82)

3.4.2 For each subcontracted product, service, and/or equipment, the tank car facility must comply with Specification M-1003, Chapter 2, paragraph 2.9 by the following:

3.4.2.1 Evaluating and selecting each subcontractor

3.4.2.2 Documenting the verification method and the results of each subcontractor assessment, including objective evidence

3.4.2.3 Completing an Exhibit B-1 form to attest that each subcontractor meets the requirements of this specification

3.4.2.4 Ensuring on a continuing basis, using the documented verification method(s), that each subcontractor performs work in accordance with this specification

3.4.3 Exhibit B-1 forms are valid for one year from the attest date.

3.4.4 The process in paragraph 3.4.2 must be repeated under the following circumstances:

3.4.4.1 Prior to the expiration date of the current Exhibit B-1 form; or

3.4.4.2 When changes with the subcontractor invalidate the current Exhibit B-1 form.

3.5 Mobile Operations

3.5.1 A tank car facility may conduct mobile operations, provided that the following circumstances exist:

3.5.1.1 The tank car facility maintains record(s) for each mobile unit; and

3.5.1.2 Each mobile unit employee is identified and traceable and functions in accordance with the quality assurance program of that tank car facility; and

3.5.1.3 Each mobile unit is based at and operated from that tank car facility; and

3.5.1.4 Each mobile unit must remain under the direction and control of that tank car facility; and
3.5.1.5 Each mobile unit operates only to activity code(s) for which that tank car facility is certified to perform.

3.5.2 Notwithstanding anything in paragraph 3.5.1, mobile units are not permitted to perform activity codes A19, B78, and/or B82.

3.5.3 Each mobile unit must be physically present and available for evaluation at every AAR in-plant audit.

3.6 Demonstration Capability

To obtain and maintain technical approval to this specification, each tank car facility must be capable of physically demonstrating the following items:

- The effective implementation of the quality assurance system to support the execution of each activity (i.e., production, inspection, and test plans)
- The minimum capabilities for each activity outlined in this section.

3.6.1 A19—Construction of Tank Cars by Manufacturing

When requested by an auditor, an A19 facility must demonstrate the ability to construct a completed tank car to an AAR-approved design by manufacturing. The facility must demonstrate the following:

3.6.1.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.5)

3.6.1.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.1.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.1.4 For the intended demonstration, provision of the approved AAR Form 4-2 and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.1.5 Proper storage, selection, and traceability of an approved tank car tank plate from the applicable material group(s) (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.1.6 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.1.6.1 Rolling flat plate into two ring sections and joining the rings with a longitudinal and circumferential weld

3.6.1.6.2 Fit-up and welding of a tank head to the ring sections

3.6.1.6.3 Fit-up and welding of the tank car tank closing seam

3.6.1.6.4 Volumetric inspection (radiography or ultrasonic) of the tank longitudinal and circumferential welds

3.6.1.6.5 Layout, fit-up, and welding of the reinforcing pads to the tank car tank
3.6.1.6.6 Layout, fit-up, tank shell preparation, and welding of the nozzles, sumps, and/or outlet saddles to the tank car tank

3.6.1.6.7 If applicable, layout, fit-up, and welding of the exterior heater coils

3.6.1.6.8 Assembly of the body bolsters

3.6.1.6.9 Layout, fit-up, and welding of the body bolsters and the stub sills to the reinforcing pads

3.6.1.6.10 Unit postweld heat treatment

3.6.1.6.11 Hydrostatic testing of tank car tank

3.6.1.6.12 If applicable to the approved design, the application of insulation, jacket, head shields, and any other safety system

3.6.1.7 Final inspection and test, including qualification stenciling, tank identification plate, and all associated markings on the tank car (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.1.8 Car file preparation, including all inspection and test records and signed AAR Form 4-2 (AAR M-1003 QA ELEMENT 2.17)

3.6.2 B24—Maintenance and Modification of Tank Car Tanks

When requested by an auditor, a B24 facility must demonstrate the ability to maintain and modify a tank car tank. Demonstration of the following can be performed on either a tank car tank or a tank car tank test plate.

3.6.2.1 The use of the production, inspection, and test plan, including the acceptance criteria established by the tank car owner, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.2.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.2.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.2.4 For the intended demonstration, provision of the approved AAR Form 4-2 and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.2.5 Proper storage, selection, and traceability of an approved tank car tank plate from the applicable material group(s) (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.2.6 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)
3.6.2.6.1 RL1 or RL2 Demonstration

Demonstration of repair level RL1 capability requires, at a minimum, a welder qualified by the facility in accord with Appendix W using the facility’s qualified welding procedure specifications (WPS) per Appendix W. If the demonstration is performed on a tank car tank, the qualified welder must perform a welded repair in accord with Appendix R. In lieu of a tank car facility demonstrating repair level RL1 capability on a tank car, a facility is permitted to use a test plate, provided that the test plate material is from the listed materials in the material group(s) identified in the application for certification. The test plate must be the contour of a tank car tank and be a minimum size of 4 ft in width and 4 ft in height. The qualified welder must perform a horizontal position 2F fillet weld that simulates a weld attachment using a material from a material group for which the facility seeks certification. The fillet weld size must be a minimum 5/16 in., and the length must be a minimum of 12 in. The facility is required to perform and document nondestructive testing using NDT methods MT or PT, and set-up of postweld heat treatment as prescribed in Appendix R.

Demonstration of repair level RL2 capability requires, at a minimum, a welder qualified by the facility in accord with Appendix W using the facility’s qualified welding procedure specifications (WPS) per Appendix W. This capability can be demonstrated by performing a defect repair (insert or through shell/thead crack) to a tank car tank. If the demonstration is performed on a tank car tank, the qualified welder must perform the repair in accord with Appendix R. In lieu of a tank car facility demonstrating repair level RL2 capability on a tank car, a facility is permitted to use a test plate, provided that the test plate material is from the listed materials in the material group(s) identified in the application for certification. The test plate must be the contour of a tank car tank and be a minimum size of 4 ft in width and 4 ft in height. The qualified welder must perform a double-weld groove joint on a tank shell insert with a 1 in. minimum corner radius. The insert must restore original contour. The minimum size of the insert must be at least 1 ft² in size. The qualified welder must demonstrate, at a minimum, horizontal position 2G and vertical position 3G groove welds. The facility is required to perform and document nondestructive testing using NDT methods UT or RT on the double-weld groove joint, and set-up of postweld heat treatment as prescribed in Appendix R.

3.6.2.6.2 If applicable, the use of tooling and fixtures to remove deformations of the tank car tank

3.6.2.7 Car file preparation, including all inspection and test records, and compliance with TCID (AAR M-1003 QA ELEMENT 2.17)

3.6.3 B78—Construction of Tank Cars by Assembly

When requested by an auditor, a B78 facility must demonstrate the ability to construct a completed tank car to an AAR-approved design by assembly. The facility must demonstrate the following:

3.6.3.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.5)

Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.3.2 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.3.3 For the intended demonstration, provision of the approved AAR Form 4-2 and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.3.4 Incoming inspection and receipt of the tank car tank (AAR M-1003 QA ELEMENT 2.10, 2.14, 2.16, 2.17, as applicable 2.9)
3.6.3.5 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- **Product** (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- **Personnel** (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- **Documents** (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- **Equipment** (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- **Materials** (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- **Environment** (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.3.5.1 If welding the underframe is applicable, the facility must demonstrate the following using special processes controlled by qualified personnel and controlled equipment:

3.6.3.5.1.1 The assembly of the body bolsters

3.6.3.5.1.2 Layout, fit-up, and welding the body bolsters to the reinforcing pads

3.6.3.5.1.3 Layout, fit-up, and welding the stub sills to the reinforcing pads or full center sill attachment

3.6.3.5.2 If applicable, the assembly/construction of insulation, jacket, head shields, and any other safety system

3.6.3.5.3 If applicable, perform hydrostatic test on a tank car tank

3.6.3.6 Final inspection and test, including qualification stenciling, tank identification plate, and all associated markings on the tank car (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.3.7 Car file preparation, including all inspection and test records and signed Form AAR 4-2 (AAR M-1003 QA ELEMENT 2.17)

3.6.4 B81—Qualification of Tank Car Tanks

When requested by an auditor, a B81 facility must demonstrate the ability to perform the qualification of an AAR-approved tank car tank. The facility must demonstrate the following:

3.6.4.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.5)

3.6.4.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.4.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)
3.6.4.4 Performance of each of the following qualification events, as specified by the associated activity codes, using special processes controlled by qualified personnel and controlled equipment:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.4.4.1 For activity codes A19 and B78, demonstrate on a tank car tank the Visual Inspection, Structural Integrity Inspection, Thickness Test, and Safety System Inspection. This shall occur in conjunction with the production, inspection, and test plan activities of A19 and B78.

3.6.4.4.2 For activity code B82, demonstrate on a tank car tank the Visual Inspection and Thickness Test, and, if applicable, the Structural Integrity Inspection when welding the underframe. This shall occur in conjunction with the production, inspection, and test plan activities of B82.

3.6.4.4.3 For activity code B24, demonstrate on a tank car tank or test apparatus the Visual Inspection, Structural Integrity Inspection, Thickness Test, and Safety System Inspection.

3.6.4.5 Final inspection and test, including the qualification event of the tank car tank (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.4.6 Marking of tank cars (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.4.7 Car file preparation, including all inspection and test records (AAR M-1003 QA ELEMENT 2.17)

3.6.5 B82—Manufacture Tank Car Tanks

When requested by an auditor, a B82 facility must demonstrate the ability to manufacture a tank car tank to an AAR-approved design. The facility must demonstrate the following:

3.6.5.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.5)

3.6.5.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.5.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.5.4 For the intended demonstration, provision of the approved AAR Form 4-2 and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.5.5 Proper storage, selection, and traceability of an approved tank car tank plate from the applicable material group(s) (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.5.6 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)
3.6.5.6.1 Rolling flat plate into two ring sections, and joining the rings with a longitudinal and circumferential weld

3.6.5.6.2 Fit-up and welding of a tank head to the ring sections

3.6.5.6.3 Fit-up and welding of the tank car tank closing seam

3.6.5.6.4 Volumetric inspection (radiography or ultrasonic) of the tank longitudinal and circumferential welds

3.6.5.6.5 Layout, tank shell preparation, fit-up, and welding of the nozzles, sumps, and/or outlet saddles to the tank car tank

3.6.5.6.6 Layout, fit-up, and welding of the reinforcing pads to the tank car tank

3.6.5.6.7 Unit postweld heat treatment

3.6.5.6.8 Hydrostatic testing of tank car tank

3.6.5.7 If welding the underframe is applicable, the facility must demonstrate the following using special processes controlled by qualified personnel and controlled equipment:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.5.7.1 Layout, fit-up, and welding the body bolsters to the reinforcing pads

3.6.5.7.2 Layout, fit-up, and welding the stub sills to the reinforcing pads

3.6.5.8 File preparation, including all inspection and test records (AAR M-1003 QA ELEMENT 2.17)

3.6.6 B85—Manufacture Tank Car Tank Components

When requested by an auditor, a B85 facility must demonstrate the ability to manufacture tank car tank components to an AAR-approved design. The facility must demonstrate the following:

3.6.6.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.5)

3.6.6.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.6.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.6.4 For the intended demonstration, provision of the approved AAR Form 4-2 and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.6.5 Proper storage, selection, and traceability of approved materials per M-1002 Appendix M (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)
3.6.6.6 The use of special processes controlled by qualified personnel and controlled equipment:
- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

All manufacturing process(es) employed to produce one or more tank car tank component, including, as applicable, layout methods, tooling, fixturing, and component fit-up

3.6.6.7 File preparation, including all inspection and test records (AAR M-1003 QA ELEMENT 2.17)

3.6.7 B87—Maintenance and Qualification of Fuel Tanks for Locomotive Fuel Tender
Reserved

3.6.8 B90—Maintenance, Alteration, and Qualification of Tank Car Stub Sills

When requested by an auditor, a B90 facility must demonstrate the ability to maintain, alter, and qualify the tank car stub sills, sill pads, and sill attachment welds both inboard and outboard of bolsters, of an approved stub sill design. The facility must demonstrate the following:

3.6.8.1 The use of the production, inspection, and test plan, including the acceptance criteria established by the tank car owner, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.8.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.8.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.8.4 Qualification demonstration: perform the qualification event on a tank car stub sill using special processes controlled by qualified personnel and controlled equipment:
- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.8.5 Utilization of one or more NDT methods during the qualification process

3.6.8.6 Maintenance demonstration: perform a stub sill weld repair or alteration to a stub sill using a welder qualified by the facility in accord with AWS D15.1 using the facility's qualified welding procedure specifications (WPS). This capability can be demonstrated by one of the following:
- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)
3.6.8.6.1 **Tank car stub sill:** perform a welded repair or alteration to a tank car stub sill in accordance with the approved design provided by the tank car owner. Demonstration of repair level RLS capability requires, at a minimum, a welder qualified by the facility in accord with AWS D15.1 using the facility's qualified welding procedure specifications (WPS) per AWS D15.1.

3.6.8.6.2 In lieu of a tank car facility demonstrating repair level RLS capability on a tank car stub sill, a facility is permitted to use a test plate, provided the material is from Appendix M. The test plate must be a two-piece tee joint configuration and be a minimum size of 1 ft in width and 1 ft in height. The test plate must be positioned no more than 48 in. from the ground. A welder qualified by the facility in accord with AWS D15.1 using the facility's qualified welding procedure specifications (WPS) per AWS D15.1 must perform an overhead position 4F fillet weld that simulates a stub sill attachment weld to tank pad. The fillet weld size must be a minimum 3/8 in., and the length must be a minimum of 12 in.

3.6.8.6.3 Utilization of one or more NDT methods during the maintenance process

3.6.8.7 Final inspection and test, including the qualification event of the tank car stub sill (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.8.8 Marking of the stub still qualification stencil on the tank car (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.8.9 Car file preparation, including all inspection and test records, and compliance with TCID (AAR M-1003 QA ELEMENT 2.17)

3.6.9 B89—Maintenance, Modification, and Qualification of Safety Systems

When requested by an auditor, a B89 facility must demonstrate the ability to maintain, modify, and qualify tank car safety systems. The facility must demonstrate the following:

3.6.9.1 The use of the production, inspection, and test plan, including the acceptance criteria established by the tank car owner, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.9.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.9.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.9.4 Proper storage, selection, and traceability of materials (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.9.5 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.9.6 The maintenance or modification and qualification employed to one or more safety systems (thermal protection systems, insulation systems, tank head puncture resistance systems, and systems used to protect discontinuities (e.g., skid protection and protective housing)

3.6.9.7 Car file preparation, including all inspection and test records, and compliance with TCID (AAR M-1003 QA ELEMENT 2.17)
3.6.10 C4a—Assemble and Qualification of Tank Car Service Equipment

When requested by an auditor, a C4a facility must demonstrate the ability to assemble and qualify new tank car service equipment to an AAR-approved design. The facility must demonstrate the following:

3.6.10.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.5)

3.6.10.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.10.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.10.4 For the intended demonstration, provision of the approved AAR Forms 4-3, 4-5, and 4-7, and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.10.5 If applicable, provision of the associated AAR Form 4-4 and/or 4-6 (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.10.6 Proper storage, selection, and traceability of materials per the AAR-approved design (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.10.7 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.10.7.1 The assembly process(es) employed to produce one or more from each applicable category of tank car service equipment (safety relief devices, valves, fittings, closures, and/or instruments) for which the facility wants to obtain and maintain certification. This includes, as applicable, the layout methods, tooling, fixturing, and component fit-up.

If applicable, utilization of all NDT methods employed during the assembly process

3.6.10.8 Final inspection and test, including the qualification event of the service equipment (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.10.9 Marking of the tank car service equipment (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.10.10 File preparation, including all inspection and test records (AAR M-1003 QA ELEMENT 2.17)
3.6.11 C4m—Manufacture and Qualification of Tank Car Service Equipment

When requested by an auditor, a C4m facility must demonstrate the ability to manufacture and qualify new tank car service equipment to an AAR-approved design, including the application of linings and coatings, as applicable. The facility must demonstrate the following:

- **3.6.11.1** The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.5)

- **3.6.11.2** Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

- **3.6.11.3** Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

- **3.6.11.4** For the intended demonstration, provision of the approved AAR Forms 4-2, 4-3, 4-5, and 4-7, and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

- **3.6.11.5** If applicable, provision of the associated AAR Form 4-4 and/or 4-6 (AAR M-1003 QA ELEMENT 2.7, 2.24)

- **3.6.11.6** Proper storage, selection, and traceability of materials per the AAR-approved design (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

- **3.6.11.7** The use of special processes controlled by qualified personnel and controlled equipment for the following:
  - Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
  - Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
  - Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
  - Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
  - Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
  - Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

- **3.6.11.8** Manufacturing process(es) employed to produce one or more from each applicable category of tank car service equipment (safety relief devices, valves, fittings, closures, and/or instruments) for which the facility wants to obtain and maintain certification. This includes, as applicable, the layout methods, tooling, fixturing, and component fit-up.

- **3.6.11.8.1** If applicable, utilization of all NDT methods employed during the manufacturing process

- **3.6.11.8.2** If applicable, the installation and qualification of a lining or coating to each category of tank car service equipment

- **3.6.11.9** Final inspection and test, including the qualification event of the service equipment demonstration (AAR M-1003 QA ELEMENT 2.12, 2.15)

- **3.6.11.10** Marking of tank car service equipment (AAR M-1003 QA ELEMENT 2.12, 2.15)

- **3.6.11.11** File preparation, including all inspection and test records (AAR M-1003 QA ELEMENT 2.17)
3.6.12 C5—Maintenance and Qualification of Tank Car Service Equipment

When requested by an auditor, a C5 facility must demonstrate the ability to maintain and qualify tank car service equipment to an AAR-approved design, including the maintenance and qualification of the lining and coating, if applicable. The facility must demonstrate the following:

3.6.12.1 The use of the production, inspection, and test plan, including the acceptance criteria established by the equipment owner, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.12.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.12.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.12.4 For the intended demonstration, provision of the approved AAR Forms 4-2, 4-3, 4-5, and/or 4-7, and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.12.5 Proper storage, selection, and traceability of materials per the AAR-approved design (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.12.6 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.12.7 Maintenance process(es) employed to repair and/or recondition one or more from each applicable category of tank car service equipment (safety relief devices, valves, fittings, closures, and/or instruments) for which the facility wants to obtain and maintain certification. This includes, as applicable, the layout methods, tooling, fixturing, and component fit-up.

3.6.12.7.1 If applicable, utilization of all NDT methods employed during the maintenance process

3.6.12.7.2 If applicable, the removal, maintenance, and qualification of a lining or coating to each category of tank car service equipment

3.6.12.7.3 Reserved

3.6.12.8 Final inspection and test, including the qualification event of the service equipment demonstration (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.12.9 Marking of tank car service equipment (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.12.10 File preparation, including all inspection and test records (AAR M-1003 QA ELEMENT 2.17)
3.6.13 C6I—Installation of Tank Car Service Equipment, Including Leakage Test

When requested by an auditor, a C6i facility must demonstrate the installation of tank car service equipment, including the leakage test, on a tank car (associated with A19 or B78 only). The facility must demonstrate the following:

3.6.13.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.13.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.13.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.13.4 For the intended demonstration, provision of the approved AAR Forms 4-2, 4-3, and/or 4-5, and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.13.5 Proper storage and selection of materials (service equipment and elastomers) (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.13.6 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.13.6.1 The installation process(es) employed to connect one or more categories of tank car service equipment (safety relief devices, valves, fittings, closures, and/or instruments) to the tank car as specified on the approved AAR Form 4-2 fittings arrangement drawing

3.6.13.6.2 The means for traceability when installing tank car service equipment

3.6.13.7 Final inspection and leakage test of the connection of the service equipment to the tank car (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.13.8 Marking of tank car service equipment (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.13.9 If applicable, the marking of the service equipment qualification stencil on the tank car (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.13.10 Car file preparation, including all inspection and test records (AAR M-1003 QA ELEMENT 2.17)
3.6.14 C6r -Removal and Replacement of Tank Car Service Equipment, Including Leakage Test and Modifications

When requested by an auditor, a C6r facility must demonstrate the removal and replacement of tank car service equipment, including the leakage test and modifications. The facility must demonstrate the following:

3.6.14.1 The use of the production, inspection, and test plan, including the acceptance criteria established by the equipment owner, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.14.1.1 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.14.1.2 The process employed when the activity results in a modification to the tank car:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.14.2 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.14.3 For the intended demonstration, provision of the approved AAR Forms 4-2, 4-3, 4-5, and/or 4-7, and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.14.4 Proper storage and selection of materials (service equipment and elastomers) (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.14.5 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.14.6 The process(es) employed to disconnect and reconnect one or more categories of tank car service equipment (safety relief devices, valves, fittings, closures, and/or instruments). This capability can be demonstrated on a tank car or in lieu of a tank car, a test fixture:

3.6.14.6.1 A tank car—performed by utilizing the equipment owner's instructions and acceptance criteria

3.6.14.6.2 A test fixture—performed by utilizing approved acceptance criteria

3.6.14.6.3 The means for traceability when replacing tank car service equipment

3.6.14.7 Final inspection and leakage test of the connection of the service equipment to the tank car or test fixture (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.14.8 Marking of tank car service equipment (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.14.9 If applicable, the marking of the service equipment qualification stencil on the tank car (AAR M-1003 QA ELEMENT 2.12, 2.15)
3.6.14.10 Car file preparation, including all inspection and test records, and compliance with TCID for modifications to the tank car (AAR M-1003 QA ELEMENT 2.17)

3.6.15 C7—Removal of Interior Linings and Coatings in Tank Cars

When requested by an auditor, a C7 facility must demonstrate the removal of interior linings and coatings from tank car tank plate material. The facility must demonstrate the following:

3.6.15.1 The use of the production, inspection, and test plan, including the acceptance criteria, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.15.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.15.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.15.4 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.15.4.1 The removal and replacement and/or protection of the tank car service equipment

3.6.15.4.2 The method(s) employed to remove the interior lining or coating. This can be demonstrated on a tank car tank nozzle or test plate of tank car tank plate material. The demonstration must include a cleaning method as authorized in Appendix L on a coated or lined test plate of tank car tank plate material. The test plate must be the contour of a tank car tank shell plate and be a minimum size of 4 ft in width, 4 ft in height, and 7/16 in. thick. The full interior side of the test plate shall be cleaned of lining or coating material and prepared according to equipment owner’s instructions.

3.6.15.4.3 Utilization of one or more NDT methods to perform visual inspection and thickness tests of the tank car tank after the removal of the interior lining or coating.

3.6.15.5 Update of the tank car qualification stencil for removal of the interior lining or coating (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.15.6 Car file preparation, including all inspection and test records, and, as applicable, compliance with TCID for modifications to the tank car (AAR M-1003 QA ELEMENT 2.17)
3.6.16 C8—Installation and Qualification of Interior Linings and Coatings in Tank Cars

When requested by an auditor, a C8 facility must demonstrate the installation and qualification of interior linings and coatings on tank car tank plate material. The facility must demonstrate the following:

3.6.16.1 The use of the production, inspection, and test plan, including the acceptance criteria established by the equipment owner, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.16.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.16.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.16.4 Where interior linings/coatings are required by the specification, provision of the approved AAR Form 4-2 and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.16.5 Proper storage, selection, and traceability of lining and coating material (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.16.6 The use of special processes controlled by qualified personnel and controlled equipment for the following:

- Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
- Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
- Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
- Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
- Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
- Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.16.6.1 The removal and replacement and/or protection of the tank car service equipment

3.6.16.6.2 Utilization of one or more NDT methods to perform the interior coating and lining inspection and test, perform visual inspection, and perform the thickness tests of the tank car tank prior to installation of the interior lining or coating

3.6.16.6.3 The method(s) employed to prepare the tank car tank and install the interior lining or coating either on a tank car tank nozzle or test plate of tank car tank plate material:

3.6.16.6.3.1 Demonstrate a cleaning/preparation method as authorized in Appendix L on a bare (unlined/uncoated) tank car tank nozzle or test plate of tank car tank plate material. The test plate must be the contour of a tank car tank shell plate and be a minimum size of 4 ft in width, 4 ft in height, and 7/16 in. thick. The cleaning/preparation shall encompass the full interior side of the tank car tank nozzle or test plate.

3.6.16.6.3.2 As applicable to the lining or coating type, demonstrate all in-process measurements on the prepared substrate per the production, inspection, and test plan.

3.6.16.6.3.3 Using the same tank car tank nozzle or test plate from paragraph 3.6.16.6.3.1, demonstrate the installation of a new interior lining or coating as authorized in Appendix L. The installation shall encompass the full interior side of the tank car tank nozzle or test plate.

3.6.16.6.3.4 As applicable to the lining or coating type, demonstrate all in-process measurements of the installation per the production, inspection, and test plan.

3.6.16.7 Final inspection and test, including the qualification event of the interior lining and coating (AAR M-1003 QA ELEMENT 2.12, 2.15)
3.6.16.8 Marking of the tank car qualification stencil for installation of the interior lining or coating (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.16.9 Car file preparation, including all inspection and test records, and, as applicable, compliance with TCID for modifications to the tank car (AAR M-1003 QA ELEMENT 2.17)

3.6.17 C10—Maintenance and Qualification of Interior Linings and Coatings in Tank Cars

When requested by an auditor, a C10 facility must demonstrate the maintenance and qualification of interior linings and coatings on tank car tank plate material. The facility must demonstrate the following:

3.6.17.1 The use of the production, inspection, and test plan, including the acceptance criteria established by the equipment owner, that comply with AAR standards, AAR interchange rules, and federal regulations (AAR M-1003 QA Element 2.3, 2.5, 2.23)

3.6.17.2 Incoming inspection of materials, products, and/or services, including those that are subcontracted (AAR M-1003 QA ELEMENT 2.9, 2.10)

3.6.17.3 Possession of all applicable AAR publications and access to federal regulations (AAR M-1003 QA ELEMENT 2.3, 2.7)

3.6.17.4 Where interior linings/coatings are required by the specification, provision of the approved AAR Form 4-2 and applicable drawings (AAR M-1003 QA ELEMENT 2.7, 2.24)

3.6.17.5 Proper storage, selection, and traceability of lining and coating material (AAR M-1003 QA ELEMENT 2.9, 2.14, 2.16, 2.24)

3.6.17.6 The use of special processes controlled by qualified personnel and controlled equipment for the following:
   - Product (AAR M-1003 QA ELEMENT 2.5, 2.11, 2.13, 2.18, 2.20)
   - Personnel (AAR M-1003 QA ELEMENT 2.9, 2.15, 2.22)
   - Documents (AAR M-1003 QA ELEMENT 2.5, 2.7, 2.15, 2.17)
   - Equipment (AAR M-1003 QA ELEMENT 2.8, 2.9, 2.15)
   - Materials (AAR M-1003 QA ELEMENT 2.9, 2.10, 2.13, 2.14, 2.16, 2.18, 2.20)
   - Environment (AAR M-1002 QA ELEMENT 2.15, 2.16)

3.6.17.6.1 The removal and replacement and/or protection of the tank car service equipment

3.6.17.6.2 The method(s) employed to prepare the tank car tank and maintain the interior lining or coating either on a tank car tank nozzle or test plate of tank car tank plate material:

3.6.17.6.2.1 Demonstrate a cleaning/preparation method as authorized in Appendix L on a coated or lined tank car tank nozzle or test plate of tank car tank plate material. The test plate must be the contour of a tank car tank shell plate and be a minimum size of 4 ft in width, 4 ft in height, and 7/16 in. thick. The cleaning/preparation shall encompass a minimum area of 1 ft² of the tank car tank nozzle or test plate.

3.6.17.6.2.2 As applicable to the lining or coating type, demonstrate all in-process measurements on the prepared substrate per the production, inspection, and test plan.

3.6.17.6.2.3 Utilization of one or more NDT methods to perform the internal coating and lining inspection and test, perform the thickness tests of the tank car tank maintenance of the interior lining or coating.

3.6.17.6.2.4 Using the same tank car tank nozzle or test plate from paragraph 3.6.17.6.2.1, demonstrate the repair application of an interior lining or coating as authorized in Appendix L. The maintenance shall encompass the area prepared in paragraph 3.6.17.6.2.1.
3.6.17.6.2.5 As applicable to the lining or coating type, demonstrate all in-process measurements of the repair application per the production, inspection, and test plan.

3.6.17.7 Final inspection and test, including the qualification event of the interior lining and coating (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.17.8 When applicable, update the tank car qualification stencil for the interior lining or coating (AAR M-1003 QA ELEMENT 2.12, 2.15)

3.6.17.9 Car file preparation, including all inspection and test records, and, as applicable, compliance with TCID for modifications to the tank car (AAR M-1003 QA ELEMENT 2.17)

3.6.18 C12—Maintenance and Qualification of Locomotive Fuel Tender Service Equipment

Reserved.

3.6.19 RLJ—Repair Level for Tank Car Jacket Repair

Listed in this section are the minimum demonstration capability requirements for repair level RLJ.

3.6.19.1 Demonstration of repair level RLJ capability requires, at a minimum, a welder qualified by the facility in accord with AWS D15.1 using the facility’s qualified welding procedure specifications (WPS) per AWS D15.1.

3.6.19.1.1 If the demonstration is performed on a tank car, the qualified welder must perform a welded repair on an 11-gauge jacket in accordance with the tank car owner’s instructions.

3.6.19.1.2 In lieu of demonstrating repair level RLJ on a tank car, a facility is permitted to use a test plate, provided that the test plate material is 11-gauge ASTM A1011. The test plate must be the contour of a typical tank car jacket and be a minimum size of 2 ft in width and 2 ft in height. The facility is required to apply a protective coating to the faying surface of the patch prior to welding. The qualified welder must apply a minimum 1 ft² patch of 11-gauge ASTM 1011 lapped and contoured to the test plate. With the top edge of the patch oriented in the horizontal 2F position, the welder must fillet-weld the full circumference of the patch to the test plate. An AWS D15.1 designated trained and qualified inspector or qualified and certified personnel in accord with Appendix T must perform nondestructive testing using the AWS D15.1 acceptance criteria.

4.0 ADMINISTRATIVE PROVISIONS

4.1 AAR M-1003 Application System

The AAR M-1003 Application System (the online system) for which facility certification is administered and managed resides within the AAR's Quality Assurance Resource Center. The URL to this system is https://aar.iirx.net/Account/Login?ReturnUrl=%2f

4.2 Establishing and Managing a User Account

A user must request and establish an account with the AAR through the following link: https://aar.iirx.net/Account/AccountRequest
4.3 Initial Application Process

Each facility must apply for initial certification via the online system. The user is responsible for completing the application as specified in the online user guide.

4.3.1 Upon submission of a completed application package, the Director—Tank Car Safety (hereinafter “Director”) will review the application. The Director may request additional information to support the application. If AAR does not receive all required or requested information, the application cannot be processed.

4.3.2 Once the completed application package has been reviewed and accepted by the AAR, the following applies:

4.3.2.1 The facility may conditionally start work on the activities for which it has applied for certification; however, the facility shall not release any products resulting from their activities until the facility receives AAR certification. This conditional provision allows the facility to be prepared to demonstrate the minimum technical demonstration capabilities required during the on-site audit;

4.3.2.2 The Director will authorize the AAR auditing agency representing (the Tank Car Committee) to schedule and perform the on-site audit of the facility per paragraph 4.4; and

4.3.2.3 The audit agency will designate a lead auditor and will assign the appropriate audit team based on the certification elements sought in the facility application. The Tank Car Committee may assign its members or AAR staff as additional audit team participants, as it deems appropriate.

4.4 On-Site Audits

4.4.1 The purpose of the on-site audit is to enable the audit team to directly witness the facility perform minimum technical demonstration requirements per paragraph 3.6.

4.4.2 The lead auditor will contact the facility to schedule the on-site audit, at which time the facility must confirm both the audit date(s) and its readiness to demonstrate all the minimum technical capabilities. These acknowledgments will be documented in the audit fee letter sent to the facility.

4.5 Facility Responses to Adverse Audit Findings, Requests for Reconsideration, and Denial or Withdrawal of Certification

The procedures for facility responses to adverse audit findings, denial or withdrawal of certification, and requests for reconsideration appeals are set forth in AAR MSRP-J, Specification M-1003.

4.5.1 Appeals

If a request for reconsideration presented in accordance with paragraph 4.5 is denied, the facility has 10 calendar days after receiving notice of the reconsideration decision to appeal the decision in writing to the Technical Services Working Committee (“TSWC”). A facility must have requested reconsideration in order to be eligible to request an appeal. The appeal should be addressed to AAR’s Assistant Vice President for Technical Services. To be considered, the appeal must identify a factual or legal error by the certifying Committee(s). The TSWC will evaluate the appeal on the basis of the record before the certifying Committee(s) below; the facility may not supplement the record on appeal. However, if the TSWC concludes that the record is lacking relevant and important information, the TSWC in its sole discretion may remand a matter back to the certifying Committee(s) with instructions for specific further factual development and another reconsideration decision, to be issued within 90 days of remand. The TSWC will reverse a reconsideration decision only where the facility has demonstrated that the Committee(s) below committed clear error. Appeals will be decided within 90 days of being requested (unless the matter is remanded), and the basis for the decision will be summarized in writing.
4.5.2 Status of Existing Facility Certification Pending Review/Appeal
Where a facility previously held an AAR certification, the withdrawal of that certification will be stayed pending resolution of any timely filed requests for reconsideration and appeal.

4.6 Revocation of Quality Assurance Certification
Certification will be revoked if the facility fails to maintain a quality assurance program per AAR MSRP-J, Specification M-1003.

4.7 Revocation of Technical Certification Elements
Individual certification elements will be revoked if the facility fails to demonstrate the minimum technical capabilities per this appendix.

4.8 Certification
4.8.1 The AAR Quality Assurance Committee and AAR Tank Car Committee jointly approve certification; however, the Tank Car Committee has final authority over granting certification.

4.8.2 Certification to this specification is in effect for a period of 3 years, subject to annual compliance audits per Table B.5.

Table B.5 M-1003 certification cycle

<table>
<thead>
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<th>Year</th>
<th>M-1003 Certification</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>1</td>
<td>Compliance Audit</td>
</tr>
<tr>
<td>2</td>
<td>Compliance Audit</td>
</tr>
<tr>
<td>3</td>
<td>Recertification Audit</td>
</tr>
</tbody>
</table>

4.8.3 Certification applies to a single facility traceable to its station stencil. If a company desires that more than one facility be certified, each facility must be certified independently.

4.9 Maintaining Certification
4.9.1 General
4.9.1.1 To maintain certification to an activity, the facility must also maintain the certification elements and associated dependencies as specified in Table B.1.

4.9.1.2 The facility is responsible for uploading the most current QA manual and completed QASE into the online system 60 calendar days in advance of the next regularly scheduled audit. Additionally, the lead auditor may request the facility to provide the production, inspection, and test plans as specified in AAR Manual of Standards and Recommended Practices, Section J, Specification M-1003.

4.9.1.3 The Tank Car Committee reserves the right to perform scheduled and unannounced on-site audits of a facility at any time to ensure compliance with this appendix.

4.9.1.4 Railroads, car owners, and certified facilities have the responsibility to report improper or unapproved tank car activity to the Executive Director for review by the Tank Car Committee. The Executive Director may authorize an unannounced on-site audit of a facility and may request copies of quality records on subject cars from the involved parties.

4.9.1.5 The Tank Car Committee may increase the frequency of audits based upon documented unsatisfactory quality/technical performance. Examples of documented unsatisfactory quality/technical performance include, but are not limited to, such items as unresolved audit findings [Adverse Audit Findings Reports (AAFRs)], nonconformance reports, product audits, and results of industry audits/inspections.
4.9.1.6 Renewal of certification is not automatic and can be denied if the facility has demonstrated an inability or unwillingness to resolve noncompliances and/or nonconformances. When noncompliance and/or nonconformances cannot be resolved by the facility, the Tank Car Committee reserves the right to schedule a formal meeting with the facility.

4.10 Fees
All service fees associated with initial applications, audit administration, and quality assurance on-site audits are listed in the Office Manual of the AAR Interchange Rules, Appendix E. Unpaid service fees will result in denial or revocation of certification.

4.11 Procedure for Change Notification
This section outlines the procedures for a facility to notify the Director of changes to their certification. Depending upon the scope of the change, the facility may be subject to an on-site audit to validate the change.

4.11.1 Change in Ownership or Location
4.11.1.1 If a facility has a change in ownership, the new facility owner is responsible for submitting an Exhibit B-3 to the Director within 30 days of the change in ownership. The Exhibit B-3 must be accompanied with a transition plan and specified timeline. This notification will initiate the Tank Car Committee's consideration of the transfer of approval.

4.11.1.2 If the facility has a change in physical location only, the facility is responsible for submitting an Exhibit B-3 to the Director. The facility must indicate in the comment section that there is no change to certification elements, personnel, processes, procedures, or equipment.

4.11.2 Adding Certification Elements
4.11.2.1 A facility may add certification element(s) at any time after initial certification by completing the Exhibit B-3 Change Request Form and submitting it to the Director for consideration. The addition of certification elements will result in a recertification on-site audit of all certification elements, including the newly added elements. This is done so that the facility complies with the annual evaluation requirements for all certification elements.

4.11.2.2 The on-site audit generally will be scheduled no sooner than 90 days from the date the Exhibit B-3 is accepted by the Director. The facility cannot add certification elements 60 days prior to the next scheduled audit.

4.11.2.3 Once the Exhibit B-3 is accepted, the facility can start work on the newly added certification elements; however, it shall not release the newly added activity until the facility receives AAR certification. This provision allows the facility to be prepared to demonstrate the minimum technical demonstration capabilities during the on-site audit.

4.11.3 Withdrawing Certification or Certification Elements
A facility may withdraw its entire certification or a certification element(s) at any time in the certification cycle by completing an Exhibit B-3 and submitting it to the Director. The facility must include the effective date of withdrawal and a statement specifying which certification element(s) the facility wants withdrawn from its certification.
4.12 Certification Live Registry

4.12.1 Use the following URL to view the certified tank car facility registry:

[LINK]

4.12.2 The online system provides a live registry of certified facilities. There is a specific registry for tank car facilities that includes the following:

- QA code/station stencil
- Facility name
- Facility city
- Facility state
- Activity codes
- Material groups
- Repair level capability
- Service equipment category

This registry can be exported for further query capability.

4.13 Exhibits

- Exhibit B–1 Subcontractor Evaluation Sheet
- Exhibit B–3 Application for Tank Car Facility Technical Certification and Change Notification Form
- Exhibit B–3A Certification Additional Information Form

4.14 AAR Staff Contact for This Appendix

For questions, comments, or interpretations of this appendix contact the following:

Director—Tank Car Safety
Association of American Railroads
425 Third Street SW, Suite 1000
Washington, DC 20024
Phone: 202-639-2260
E-mail: mforister@aar.org
EXHIBIT B–1
SUBCONTRACTOR EVALUATION SHEET

Each facility shall complete and retain a copy of this form for each subcontractor required by Appendix B. A company representative responsible for the activity shall attest that the subcontractor uses appropriate equipment, procedures, and personnel to meet the requirements of this specification. This form expires one year after the date verified below.

<table>
<thead>
<tr>
<th>Part 1: Subcontractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Company Name</td>
</tr>
<tr>
<td>2 Address</td>
</tr>
<tr>
<td>3 City</td>
</tr>
<tr>
<td>4 State/Province</td>
</tr>
<tr>
<td>5 Zip/Postal Code</td>
</tr>
<tr>
<td>6 Country</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part 2: Primary Subcontractor Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Name</td>
</tr>
<tr>
<td>8 Title</td>
</tr>
<tr>
<td>9 Office Phone</td>
</tr>
<tr>
<td>10 Cell Phone</td>
</tr>
<tr>
<td>11 Fax</td>
</tr>
<tr>
<td>12 Email Address</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part 3: Subcontractor Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Select the applicable activities provided to the Certified Facility:</td>
</tr>
<tr>
<td>Personnel</td>
</tr>
<tr>
<td>For each activity identified above, explain how the company representative responsible for that activity verifies that the subcontractor understands and conforms to the requirements of the Association of American Railroads Manual of Standards and Recommended Practices, Section C Part III, Specification for Tank Cars (M-1002).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part 4: Company Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 Company Name</td>
</tr>
<tr>
<td>20 Name</td>
</tr>
<tr>
<td>21 Title</td>
</tr>
<tr>
<td>22 Office Phone</td>
</tr>
<tr>
<td>23 Cell Phone</td>
</tr>
<tr>
<td>24 Fax</td>
</tr>
<tr>
<td>25 Address</td>
</tr>
<tr>
<td>26 City</td>
</tr>
<tr>
<td>27 State/Province</td>
</tr>
<tr>
<td>28 Zip/Postal Code</td>
</tr>
<tr>
<td>29 Country</td>
</tr>
<tr>
<td>30 Signature (Attesting)</td>
</tr>
<tr>
<td>31 Date Verified [MM/DD/YYYY]</td>
</tr>
<tr>
<td>32 Date of Expiration [MM/DD/YYYY]</td>
</tr>
</tbody>
</table>

Save  Print  Reset
**EXHIBIT B–3**

APPLICATION FOR TANK CAR FACILITY TECHNICAL CERTIFICATION AND CHANGE NOTIFICATION FORM

This form is both the application for AAR Technical Certification for a single tank car facility and used as change notification as required by paragraph 3.10. This application must be accompanied by an initial payment as required by paragraph 3.13. This form is part of the application package (see paragraph 3.1.2), which must be submitted to

Executive Director—Tank Car Safety
Association of American Railroads
425 Third Street, SW Suite 1000
Washington, D.C. 20024

**Part 1: General Application Information**

<table>
<thead>
<tr>
<th>1 Application for</th>
<th>Initial Certification Inspection</th>
<th>Recertification Inspection</th>
<th>Change Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Application Date</td>
<td>[MM/DD/YYYY]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3 Do you have a valid M-1003 Quality Assurance Program Certification? [ ] Yes [ ] No
   If "No," the facility must apply for M-1003 QAP certification. (NOTE: In addition to technical certification, QA certification is required in order to perform any tank car activity listed in Part 4 of this application and in Appendix B Table B.2.)

4 Applicable to facilities requesting certification for manufacturing (A19) and/or assembling (B78) tank cars: Do you have a valid S-2034 Car Builder Certification? [ ] Yes [ ] No
   If "No," the facility must apply for S-2034 Car Builder Certification.

5 If you are an existing AAR Registered Tank Car Facility, provide the following:
   What is your Station Stencil? [ ] Yes [ ] No
   Do you prefer to keep the same Station Stencil? [ ] Yes [ ] No

**Part 2: Tank Car Facility Information**

<table>
<thead>
<tr>
<th>6 Station Stencil</th>
<th>(Assigned by AAR; however Station Stencil request can be made in field 36 Comments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Company Name</td>
<td></td>
</tr>
<tr>
<td>8 Address</td>
<td>9 City</td>
</tr>
<tr>
<td>10 State/Province</td>
<td>11 ZIP/Postal Code 12 Country</td>
</tr>
</tbody>
</table>

**Part 3: Primary Contact at Facility**

<table>
<thead>
<tr>
<th>13 Name</th>
<th>14 Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Office Phone</td>
<td>16 Cell Phone</td>
</tr>
<tr>
<td>18 Email Address</td>
<td></td>
</tr>
</tbody>
</table>

**Part 4: Applicant**

| 19 Is the applicant the contact identified in Part 3 and located as identified in Part 2? | [ ] Yes (if so, skip this part) [ ] No |
| 20 Company Name | 22 Title |
| 21 Name | 24 City |
| 23 Address | 26 ZIP/Postal Code |
| 25 State/Province | 27 Country |
| 28 Office Phone | 29 Cell Phone | 30 Fax |
| 31 Email Address |                                  |

**Part 5: Recipient of Certification from AAR**

<table>
<thead>
<tr>
<th>32 Select the Recipient (NOTE: This facility must have the ability to produce the certification letter upon request.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Applicant (Part 4)</td>
</tr>
</tbody>
</table>
EXHIBIT B–3
APPLICATION FOR TANK CAR FACILITY TECHNICAL CERTIFICATION AND CHANGE NOTIFICATION FORM

Part 6: Facility Certification Information
NOTE: Certified facility must be capable of performing, or arrange to have performed, all associated tank car activities for which the facility is certified.

33 Select activity codes that apply:
- A19 Manufacturer of tank cars
- B24 Repair of tank cars
- B78 Assemble of tank cars
- B79 Alteration of tank cars
- B80 Conversion of tank cars
- B81 Qualification of tank cars
- B82 Manufacture of tank car tanks, including support structure, that are moved to and from the facility without trucks (running gear)
- B83 Repair tank car tanks that are moved to and from the facility without trucks (running gear)
- B84 Qualification of tank car tanks that are moved to and from the facility without trucks (running gear)
- B85 Manufacturer of pressure-retaining tank components that are moved to and from the facility without trucks (running gear)
- B86 Repair 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 Reconditioner/repair and qualification of tank car service equipment
- C6 Removal and replacement of tank car service equipment (including changing of gaskets)
- 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
- C10 Repair of interior linings and coatings in tank cars
- C11 Inspection of interior linings and coatings in tank cars

34 Select each applicable material group (1, 2, 3, 4, 7) or N/A:
- MG 1
- TC-128 Included
- MG 2
- MG 3
- MG 4
- MG 7(s)
- N/A

35 Select a repair level capability if applying for B24 and/or B83:
- RL1—Demonstrate proficiency in performing welding to tank car tank material, NDT method MT or PT, and postweld heat treatment. This level excludes repairing a through-the-tank-car tank defect (insert or through-the-shell/head crack). This demonstration must be performed on a tank car tank or test plate and must be performed on a material from a material group for which the facility seeks certification.
- RL2—Demonstrate proficiency in performing welding to tank car tank material, NDT, and postweld heat treatment. This level includes repairing a through-the-tank-car tank defect (insert or through-the-shell/head crack). This demonstration must be performed on a tank car tank or test plate and must be performed on a material from a material group for which the facility seeks certification.

Part 7: Fee Information

36 Is the initial payment, as required by paragraph 3.13 of Appendix B, attached?  Yes
   (NOTE: AAR will not process application without initial payment)
EXHIBIT B–3
APPLICATION FOR TANK CAR FACILITY TECHNICAL CERTIFICATION
AND CHANGE NOTIFICATION FORM

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>Comments</td>
</tr>
<tr>
<td>38</td>
<td>Applicant's Name</td>
</tr>
<tr>
<td>39</td>
<td>Applicant's Signature</td>
</tr>
<tr>
<td>40</td>
<td>Company</td>
</tr>
<tr>
<td>41</td>
<td>Signature Date [MM/DD/YYYY]</td>
</tr>
<tr>
<td>42</td>
<td>Title</td>
</tr>
</tbody>
</table>

This is to attest that the information provided in this application meets all requirements of M-1002, Appendix B, and that all information required by M-1002, Appendix B, Form B-3A, has been included.
**EXHIBIT B–3A**  
**CERTIFICATION ADDITIONAL INFORMATION FORM**

This form must be completed and provided as part of the application package per Appendix B, paragraph 3.1.2, for tank car facility certification. The intent of the term “In-House” used in this form is to identify if the facility has on-site the item, personnel, process, equipment, service, or product. It is not intended to mean having the item, personnel, process, equipment, service, or product within an organization, company, or corporation or at another facility.

Any reference to an appendix within this form implies an appendix within M-1002 unless otherwise specified.

If the facility subcontracts any of the services or equipment listed below or listed in Appendix B paragraph 2.1.1, a copy of the Exhibit B-1 Subcontractor Evaluation Sheet must be included with the application.

### Part 1: Equipment

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Does the facility subcontract any equipment necessary to perform the tank car activities for which technical certification is requested?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Does the facility possess the post-weld heat-treatment equipment for unit and/or local treatment in accord with Appendix W, paragraph 17.0, and Appendix R, paragraph 20.0?</td>
<td>In-house</td>
<td>Subcontracted</td>
</tr>
<tr>
<td>3</td>
<td>Does the facility have the welding equipment necessary to perform the tank car activities for which technical certification is requested?</td>
<td>In-house</td>
<td>Subcontracted</td>
</tr>
<tr>
<td>4</td>
<td>Does the facility have welding gauges necessary to perform the tank car activities for which technical certification is requested?</td>
<td>In-house</td>
<td>Subcontracted</td>
</tr>
<tr>
<td>5</td>
<td>Does the facility possess hardness testing equipment necessary to perform the tank car activities for which technical certification is requested?</td>
<td>In-house</td>
<td>Subcontracted</td>
</tr>
<tr>
<td>6</td>
<td>Does the facility possess hydrostatic equipment for tank and heater coil testing necessary to perform the tank car activities for which technical certification is requested?</td>
<td>In-house</td>
<td>N/A to tank car activities at this facility</td>
</tr>
<tr>
<td>7</td>
<td>Does the facility possess pressure relief valve test equipment necessary to perform the tank car activities for which technical certification is requested?</td>
<td>In-house</td>
<td>N/A to tank car activities at this facility</td>
</tr>
<tr>
<td>8</td>
<td>Does the facility have a transfer table or other mechanism to simulate AAR minimum curve requirements?</td>
<td>In-house</td>
<td>N/A to tank car activities at this facility</td>
</tr>
<tr>
<td>9</td>
<td>Does the facility have possession of or access to a scale for weighing cars?</td>
<td>In-house</td>
<td>N/A to tank car activities at this facility</td>
</tr>
<tr>
<td>10</td>
<td>Does the facility have designated level track for adjustment of side bearings and coupler height?</td>
<td>In-house</td>
<td>N/A to tank car activities at this facility</td>
</tr>
</tbody>
</table>
EXHIBIT B–3A
CERTIFICATION ADDITIONAL INFORMATION FORM

11 Does the facility have the proper storage for the following items in-house?

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>N/A to Tank Car Activities at This Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welding Electrodes/Wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaskets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fasteners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valves and Fittings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12 Does the facility have the sufficient flux and/or rod ovens in use to support the operations per Appendix W and AWS D15.1?

- [ ] Yes
- [ ] No
- [ ] N/A to tank car activities at this facility

13 Does the facility possess, or has access to, any other equipment necessary to perform the tank car activities for which technical certification is requested?

- [ ] Yes
- [ ] No

- If “Yes,” has the information required above been included with this form?

---

**Part 2: Welding Procedures**

14 Does the facility perform welding to tank car tanks?

- [ ] Yes
- [ ] No

(If “Yes,” the items in this part must be addressed and the facility must provide the supporting documentation with this form.)

15 Current qualification test results for a material listed in each material group for which certification is requested, including a copy of Welding Procedure Qualification Record (PQR), Appendix W, Fig. W13, with the following:

a. Data illustrating preparation of abutting plate edges

b. Tabular data outlining welding-essential variables as prescribed by Appendix W used in welding plate of various thicknesses for each material group for which certification is requested.

c. Tests performed on an approved plate material for tank fabrication as listed in Appendix M, paragraph 3.0.

- The information required above has been included with this form.

16 List of welders, by name and identification symbol, qualified per Appendix W at the facility. One or more welders qualified as defined in Appendix W for each material group for which certification is requested must be employed at the facility. One copy of Welder Performance Qualification Test (WPQT), Appendix W, Fig. W14, must be included for each material group for which certification is requested.

- The information required above has been included with this form.

---

**Part 3: Nondestructive Examination/Testing (NDE, NDT, NDI)**

17 Does the facility have an NDT written practice administered by an NDT Level III as required by Appendix T, paragraph 1.4.1?

- [ ] Yes
- [ ] No

If “No,” explain:

---

18 Provide the name of the NDT Level III:

- The NDT Level III is

  - [ ] In-house
  - [ ] Subcontracted
EXHIBIT B–3A
CERTIFICATION ADDITIONAL INFORMATION FORM

19 Does the NDT Level III meet the qualification requirements of Appendix T?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(If “No,” the application will be placed in suspense until such time as the facility provides a statement that the NDT Level III is qualified to Appendix T)

20 Identify the NDT methods that are applicable and not applicable to the tank car activities for which technical certification is requested, and identify whether the nondestructive testing is performed by facility personnel in-house and/or subcontracted:

<table>
<thead>
<tr>
<th>Method</th>
<th>Applicable</th>
<th>Not Applicable</th>
<th>In-House</th>
<th>Subcontracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Penetrant (PT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnetic Particle (MT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultrasonic (UT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultrasonic Thickness (UTT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leak Testing (LT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bubble Leak Test (BT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (describe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiographic (RT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Inspection (VT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote Visual Inspection (RVI)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Acoustic Emission (AE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal/Infrared (IR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21 List of facility NDT personnel certified per Appendix T, including name, NDT level of certification, NDT method, and certification expiration date.

☐ The information required above has been included with this form.

Part 4: Organization and Personnel

The items in this part must be addressed and the facility must provide the supporting documentation applicable to the tank car activities for which technical certification is requested.

22 Current organization charts of engineering, production, and quality assurance personnel (including mobile unit personnel). A statement describing key personnel responsible for supervising engineering, manufacturing/production, repair, nondestructive testing/examinations, welding, and ensuring quality in compliance with AAR standards, including the following:

a. Name and Title
b. Outline of duties
c. Delegated authority
d. Level to which certified (for nondestructive testing (NDT), welding inspection, and coating/lining inspection)
e. Experience, education, and training

☐ The information required above has been included with this form.

Part 5: Additional Information Required for Recertification Only

23 If exhibit R-1 forms are prepared, provide a description of how these documents are originated, processed, and stored.

☐ The information required above has been included with this form.
EXHIBIT B–3A
CERTIFICATION ADDITIONAL INFORMATION FORM

Part 6: Publications and Documents
The facility must possess the following latest publications that are applicable to the tank car activities for which technical certification is requested; and any other documents applicable to the facility’s tank car activities:

☐ AAR MSRP, Section C, Standard S-2034
☐ AAR MSRP, Section C Part II, Design, Fabrication, and Construction of Freight Cars (M-1001)
☐ AAR MSRP, Section C Part III, Specifications for Tank Cars (M-1002)
☐ AAR MSRP, Section J, Specifications for Quality Assurance (M-1003)
☐ Field Manual of the AAR Interchange Rules
☐ Office Manual of the AAR Interchange Rules
☐ Other Publications required by the AAR Field Manual of the Interchange Rules, Rule 1.5.b
☐ AAR circulars and Casualty Prevention circular letters
☐ Title 49 Code of Federal Regulations, Parts 171-180
☐ Title 49 Code of Federal Regulations, Parts 215, 231
☐ Transportation Dangerous Goods (TDG) regulations
☐ CGSB Standard CAN/CGSB 43.147-2005

MSRP = Manual of Standards and Recommended Practices
NOTE: A list of all current AAR MSRP publications and how they can be ordered is provided in M-1002.

Part 7: Remarks
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