U.S. Department
of Transportation
Federal Railroad Administration

West Building, W35-322
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

FRA-AIP 201901-C

REVIEW DATE: January 1, 2025

1. GRANTEE:

GATX Corporation
233 S. Wacker Drive
Chicago, Illinois 60606-7147

2. PURPOSE AND LIMITATION:

a. This approval authorizes the use of an Alternative Inspection and Test Program as allowed by 49 CFR § 180.509(l) *Alternative inspection and test procedures*. This letter provides no relief from the Hazardous Materials Regulations (HMR) other than as expressly stated herein. The most recent revision supersedes all previous revisions.

b. The damage-tolerance analysis or service reliability assessment performed in developing this Alternative Inspection and Test Program (AIP) only considered the hazards and risks associated with transportation in commerce.

c. This approval to use an alternative inspection and test program is non-transferable.

3. REGULATIONS AFFECTED: 49 CFR §§ 180.509(d), 180.509(e) 180.509(f), 180.509(i).

4. BASIS: This approval is based on the applications of GATX Corporation from 2001, May 19, 2010, May 25, 2016, and November 19, 2021, submitted per § 180.509(l). This letter supersedes the previous approvals dated September 24, 2020, October 19, 2001, August 11, 2010, January 23, 2013, and March 4, 2021.

5. INSPECTION AND TEST PROCEDURES:

a. DEFINITIONS:

1. Service Reliability Assessment – the process, of using in-service data to determine the time a tank car or component will continue to function as designed under specified conditions.

2. Tank Car Owner - the person to whom a rail car's reporting marks are assigned, as listed in the Universal Machine Language Equipment Register (UMLER).

3. Damage-Tolerance Analysis – Determination of the probable locations and modes of damage due to manufacturing, fatigue, corrosion, or accidental damage. The analysis must establish a period of time/load cycles during which it is demonstrated that widespread fatigue or corrosion damage will not occur in the tank car structure.

b. BENCHMARK TESTING:

1. All GATX tank cars covered by this approval must have Ultrasonic Thickness Testing (UTT) measurements for every tank car taken at the time of manufacture. For tank cars lacking these measurements, UTT measurements must be taken at the time of the following qualification but not to exceed the maximum allowable interval given in 49 CFR § 180.509(f) or the maximum interval permitted by an applicable approved Alternative Inspection Program.

2. All GATX tank cars covered by this approval must have initial structural integrity weld inspections of the welds listed in § 6(a) below taken at the time of manufacture. Tank cars lacking these measurements should be taken at the time of the following qualification.

c. DESIGN LEVEL OF RELIABILITY AND SAFETY: GATX must ensure that the tank car tank thickness and any visually detected weld flaws do not decrease its design level of reliability and safety.

d. SENSITIVITY and RELIABILITY

1. For tank cars using Visual Inspection and Testing (VT) procedures in place of UTT procedures, GATX must determine the level of reliability, sensitivity, and minimum detectable flaw size for the proposed inspection method. For tank cars using VT procedures in place of Ultrasonic Inspection and Testing (UT) procedures to inspect transverse butt welds, GATX must determine the level of reliability, sensitivity, and minimum detectable flaw size for the proposed inspection method.

2. For tank cars that will not have the structural integrity weld inspections listed in § 6(a) below, GATX must determine the level of reliability, sensitivity, and minimum detectable flaw size for the proposed inspection method at the listed inspection sites.

e. CONTROL:

1. GATX must perform UTT testing on a representative sample of the fleet covered by this AIP approval. The frequency must be based on the identified corrosion rate, utilization, and other factors to maintain the design level of reliability and safety and shall be made available to FRA or a designated representative upon request. The sample size must be determined by following recognized industry sampling standards.

2. GATX must perform structural integrity weld inspections on the welds listed in § 6(a) below on a representative sample of the fleet covered by this AIP approval. The frequency must be based on the identified corrosion rate, utilization, and other factors to maintain the design level of reliability and safety and shall be made available to FRA or a designated representative upon request. The sample size must be determined by following recognized industry sampling standards.

6. REGULATORY RELIEF:

a. Inspection of the below-listed welds is not required until the car has exceeded 1,000,000 miles:

1. Longitudinal fillet weld on outboard stub sill

reinforcing pad to tank (TCID A2)
2. Fillet weld on outboard stub sill cutout reinforcing pad to tank (TCID A3)
3. Longitudinal fillet weld on inboard stub sill reinforcing pad to tank (TCID A4)
4. Transverse groove weld on inboard stub sill reinforcing pad to bolster reinforcing pad (TCID A7)
5. Longitudinal fillet weld on inboard stub sill reinforcing pad slot to tank (TCID A8)
6. Transverse fillet weld on inboard stub sill reinforcing pad (transition reinforcing pad) to tank (TCID A15)
7. Longitudinal fillet weld on termination of the inside of reinforcing pad (re-bar) to tank (TCID A44)
8. Transverse portion of fillet weld to the tank on bottom outlet saddle (TCID G1)
9. Transverse portion of fillet weld to the tank on sump (TCID H1)
10. Fillet welds on brake rigging support reinforcing pads to tank (TCID Other)

b. VT may be utilized instead of UT when inspecting transverse butt welds of tank car tanks made ASTM A515-GR 70, ASTM A516-GR 70, AAR TC128 GR B, ASTM A-240 Type 316L, ASTM A-240 Type 304L, and ASTM A-240 Type 304. UT must still be used on a sampling of high mileage cars.

c. UTT measurements may be taken through existing coatings at the time of qualifications on all tank cars except tank cars with specifications 111A60W5, 111A100W5, or tank cars constructed of stainless steel or aluminum alloys.

d. After benchmark UTT measurements are taken, GATX may follow this AIP using visual inspections coupled with local UTT measurements when visible corrosion is observed on the interior or exterior of the tank.

e. Section 180.509(f)(3) - For a localized repair of an internal lining or coating where a material corrosive to the tank as defined § 180.503 has contacted the tank, GATX may use visual inspections to determine if there is thickness loss instead of UTT. If thickness loss is

observed, UTT measurements must be taken to determine the localized thinning of the tank.

7. SPECIAL PROVISIONS:

a. A person who is not a holder of this AIP approval who receives a package covered by this AIP approval may reoffer it for transportation provided no modification or change is made to the package or its contents, and it is reoffered for transportation in conformance with this AIP approval and the HMR.

b. A current copy of this AIP approval must be maintained at each facility where the package is maintained and/or repaired.

c. Marking of each tank car is required and must meet the marking and labeling requirements of 49 CFR Part 172, Subpart D. The car must be identified by a stencil or decal placed above the tank specification number. The stencil must have at least 1 1/2-in high (38.1 mm) letters and numbers and display "FRA-AIP 201901." Additionally, the car must have the initial qualification year (QUALIFIED) and the subsequent qualification year (DUE). This interval must be developed from the Service Reliability Assessment. The marking must occur at the time of next shopping by a tank car facility, not to exceed the maximum allowable interval given in 49 CFR § 180.509(c)(3) or the maximum interval permitted by an applicable AIP.

d. If a tank car operating under this approval is removed from the AIP, all AIP markings must be removed.

8. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this approval and penalties prescribed by the Federal hazardous materials transportation laws, 49 U.S.C. § 5101 *et seq.*

a. The grantee must comply with all terms and conditions prescribed in this approval and the HMR, 49 CFR Parts 171-180.

b. Each "Hazmat employee," as defined in § 171.8, who performs a function subject to this approval must receive training on the requirements and conditions of this AIP in addition to the training required by §§ 172.700 through

172.704.

c. No person may use or apply this AIP, including the display of its number, when this approval has lapsed or is otherwise no longer in effect.

9. REPORTING REQUIREMENTS:

a. GATX must notify the Associate Administrator for Railroad Safety, Chief Safety Officer, in writing no later than 30 days after notification of any incident involving a Tank Car conducted under terms of this AIP.

b. GATX must report instances of corrosion damage or tank failure not considered in the damage-tolerance analysis or service reliability assessment on any car subject to this approval to FRA within five days of being notified of such occurrence.

c. GATX must maintain a listing of tank cars by reporting the mark and number operating under this approval to include the status of the above-required marking and will report this listing to FRA every five years or upon request.

d. GATX must report CONTROL results (see paragraph 5(d) above) to FRA every five years or upon request.

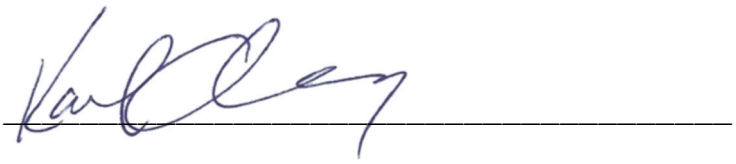
10. LIMITATIONS:

a. If a tank car operating under this approval is transferred from GATX to another Tank Car Owner, then the tank car will no longer be subject to the relief granted under this approval and all the above-required stenciling must be removed. The qualification due date must be changed to reflect the new Tank Car Owner’s Qualification Interval under the new Tank Car Owner’s qualification and maintenance program. If the new due date is passed, the qualification is due immediately.

11. CANCELLATION:

FRA may rescind this approval for failure to comply with its terms.

Issued in Washington, D.C.:



April 8, 2022

Karl Alexy
Associate Administrator for Railroad Safety
Chief Safety Officer

Address all inquiries to Randy M Keltz Jr., Manager, Tank Car Safety Programs, Federal Railroad Administration, U.S. Department of Transportation, West Building, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Photo reproductions and legible reductions of this approval are permitted. Any alteration of this approval is prohibited.

REVISION HISTORY		
REV	DATE	DESCRIPTION
	01/2019	Original approval
A	08/2020	Section 5(b) changed to clarify maximum interval allowed to include other AIPs; Added limitations section to clarify that the allowances of this AIP do not transfer ownership with the tank car if the car is transferred; added definition of Tank Car Owner to align with 49 CFR.
B	3/2021	Incorporate terms from GATX AIP 200107, GATX AIP 201005, and GATX AIP 201201 and update reporting language; relocated regulatory relief section
C	3/2022	Add section 6(e), allowing for the use of visual inspection to determine if thickness loss has occurred where an internal lining or coating is damaged.