



M O V I N G T H E
**AMERICAN
ECONOMY**

U.S. Department of Transportation
Office of Public Affairs
Washington, D.C.
www.dot.gov/affairs/briefing.htm

News

DOT 05-09

Contact: Steve Kulm, FRA
Tel: (202) 493-6024
Joe Delcambre, PHMSA
Tel.: (202) 366-4831

Monday, January 12, 2009

DOT Requires Stronger Railroad Hazmat Tank Cars to Improve Crashworthiness *Final Rule Reduces Risk of Hazmat Spills from Train Accidents*

In a move to enhance safety on the nation's railroads, U.S. Transportation Secretary Mary E. Peters today announced a final rule to improve the crashworthiness of railroad tank cars used to transport some of the most dangerous hazardous materials.

"Strengthening rail hazmat tank cars will reduce the risk of spills and increase public safety should a train accident occur," Secretary Peters said. She noted the final rule is focused on poison inhalation hazard (PIH) materials like chlorine and anhydrous ammonia heavily used in water treatment, agricultural, and industrial applications.

The final rule requires PIH tank cars to have better puncture resistance from a side impact with a combination of thicker inner shells where the hazmat is held and/or thicker outer jackets depending on the specific hazmat being transported. In addition, each end of the tank car is to be protected with a full head shield where not already mandated by existing regulations and strengthened valves, top fittings and nozzles used to load and unload the tank car are required to prevent a release in a rollover accident.

The new rule also imposes a 50 mph maximum speed restriction on all loaded PIH tank cars and allows for an increase in the gross weight of the tank car to accommodate the enhanced safety measures. Also, it requires tank car owners to prioritize the retirement or replacement of older tank cars used in PIH service which were built prior to 1989 with non-normalized steel that may not adequately resist the development of fractures.

Peters said the final rule provides an increase in safety over existing rail hazmat tank car designs pending further technological and manufacturing advancements. Adoption of these interim design standards will ensure the ongoing availability of PIH tank cars with improved safety while DOT completes longer-term research, testing, and validation of advanced tank car designs for a more stringent performance-based standard to further increase rail hazmat tank car crashworthiness.

The final rule was issued by the DOT Pipeline and Hazardous Materials Safety Administration in close consultation with the Federal Railroad Administration following a broad and multi-faceted review of virtually all aspects of rail tank car safety. It applies to PIH tank cars built on or after March 16, 2009.

Secretary Peters added that in June 2008, a new rail hazmat routing rule took effect requiring railroads to rigorously analyze and then select the route with the fewest overall safety and security risks. The hazmat routing rule, combined with the hazmat tank car rule, provides enhanced protection for people living in both large cities and small towns, she said.

###



M O V I N G T H E
**AMERICAN
ECONOMY**

Rail Hazmat Tank Car Safety Final Rule Summary

U.S. DEPARTMENT OF TRANSPORTATION FINAL RULE Improving the Safety of Railroad Tank Car Transportation of Hazardous Materials

Background

The U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), in close consultation with the Federal Railroad Administration (FRA), is issuing a final rule improving the safety of rail tank cars that carry poisonous by inhalation materials (PIH), such as chlorine or anhydrous ammonia used heavily in water treatment, agricultural, and industrial applications. The improvements increase rail hazmat tank car crashworthiness over existing design standards.

The final rule establishes interim design standards requiring a combination of thicker outer jackets and/or inner shells, new safety features to protect the valves, fittings and nozzles, and a maximum operating speed, among other provisions. The new standards apply to PIH tank cars built on or after the effective date of March 16, 2009, and to certain tank cars currently in service that already conform to the interim standard. The final rule will be published in the *Federal Register* on January 13, 2009.

The interim standards established in this final rule will enhance the accident survivability of PIH tank cars when compared to existing regulations while providing tank car owners continued flexibility in tank car selection. Adoption of this interim standard will ensure the ongoing availability of tank cars while PHMSA and FRA complete research and testing on advanced tank car design to validate and implement a more stringent performance standard. Tank car owners can move forward with purchasing decisions and continue their ongoing efforts to phase-out aging PIH tank cars and replace them with newer, safer ones.

Key Provisions of the Final Rule

Interim Design Standards Established Pending Completion of Advance Tank Car Design Research

The final rule establishes a U.S. DOT-authorized interim tank car standard to enhance PIH tank car safety while additional research and testing on advanced tank car design is completed, validated, and more stringent, performance-based standards are developed. In addition, it provides for a 20-year 'grandfathering' period for tank cars that comply with the interim design standards.

PIH Tank Cars Required to Have Combination of Thicker Inner Shells and/or Outer Jackets

The final rule requires specified hazmat tank cars to have a combination of thicker inner shells (that part of the tank that actually contains the hazmat) and/or thicker outer jackets to improve puncture resistance in side impact accidents. The enhanced thickness of the shell and/or jacket will vary based on the specific PIH commodity being transported. In addition, full head shields at both ends of the tank car are to be used where not already required.

New Protections Required for PIH Tank Car Valves, Fittings and Nozzles

The final rule establishes additional protection for the valves, fittings and nozzles used to load and unload the tank car. Tank cars must be equipped with either top fittings protection and tank nozzle

reinforcement designed to survive a rollover with a 9 mph velocity, or tank nozzle reinforcement designed to survive a 9 mph rollover and top fittings protection system that prevents the release of product from any top fitting in the case of an accident where the top fittings would be sheared off. The strengthened performance standard will reduce the likelihood of a release at these locations while allowing for industry-tested design innovations that effectively prevent release if the protective housing and valves, fittings, and nozzles are sheared off during an accident.

Loaded PIH Tank Cars Restricted to a 50 mph Maximum Allowable Operating Speed

The final rule imposes a 50 mph maximum allowable operating speed for all loaded PIH tank cars and is consistent with existing rail industry practices for the vast majority of PIH shipments. In addition, DOT is encouraging railroads to apply the 50 mph speed restriction to all residue PIH shipments.

PIH Tank Cars Required to be Constructed of Normalized Steel

The final rule adopts current industry practice by requiring that PIH tank cars be constructed of normalized steel. Normalized steel is subjected to a specific heat treatment procedure that improves the steel's ability to resist fracture.

Older PIH Tank Cars Required to Have Prioritized Retirement and Replacement

The final rule requires tank car owners to prioritize the retirement and replacement of pre-1989 tank cars manufactured with non-normalized steel over those constructed with normalized steel when retiring or removing tank cars from PIH materials service. The use of non-normalized steel has raised concerns about their ability to resist the propagation of fractures that can lead to catastrophic failure.

Weight Limitation for PIH Tank Cars Increased to Accommodate Safety Improvements

The final rule permits an increase in the gross weight of a PIH tank car from 263,000 to 286,000 pounds to accommodate weight increases due to the interim design standard safety improvements. In addition, permitting an increased weight limit will enable hazmat shippers to continue meeting customer demands without a need to significantly increase the total number of PIH rail shipments.

Interim Design Standards Preempt AAR Interchange Standard

The final rule interim design standards preempt the interchange standard (CPC-1187) for PIH tank cars issued by the Association of American Railroads. New tank cars will only be manufactured under the DOT interim design standards which provide more flexibility such that the tank cars may be built to designs that may permit future upgrades to achieve an equivalent level of safety to any changing regulatory requirements or to take advantage of technological improvements.

For more information contact:

**Federal Railroad Administration
Office of Public Affairs
202-493-6024**

**Pipeline and Hazardous Materials Safety Administration
Office of Public Affairs
202-366-4831**